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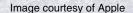
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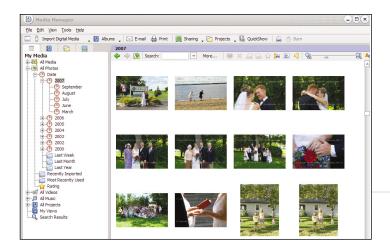
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What's Best, What's Next

In this issue, we give our take on the best components, peripherals, and software for 2007. Then we take a look at the hottest components power-loving users can expect to see in the coming year.



PC Today Powerful Notebooks

If you've been biding your time when it comes to shopping for a new notebook PC and now you're ready to get the best model money can buy, the November *PC Today's* featured articles will help you get started.



First Glimpse Holiday Gift Guide

The CEA (Consumer Electronics Association) predicts that the electronic gadgets topping many wish lists this holiday season will boost sales to \$48.1 billion. If you're itching to get started on your holiday buying, we have loads of ideas for the home theater, digital imaging, computer, and wireless lovers on your holiday gift lists this year.



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DESKTOPS & LAPTOPS

All Together Now

s desktop computers continue Ato shrink, it was only a matter of time before manufacturers discovered a way to ditch the traditional computer case altogether. The result is the all-in-one computer, which squeezes the CPU, memory, ports, and other components into the base of the LCD monitor itself, leaving only a keyboard and mouse to otherwise occupy space. While Apple's iMac is known for pioneering the all-in-one design, other computer manufacturers are getting in on the action.

Gateway unveiled the Gateway One, an all-in-one design that starts at \$1,299.99 for the GZ7108 (other models are also available, including the \$1,499.99 ZX190 and \$1,799.99 GZ7220). All of the Gateway One models feature an integrated 19-inch widescreen TFT (thin film transistor) LCD with a resolution of 1,440 x 900, and the GZ7108 powers the monitor with an Intel Graphic Media Accelerator X3100. The ZX190 and GZ7220 boost graphics performance further with an ATI Mobility Radeon HD 2600 XT with 256MB of dedicated video memory. All models include 8-channel (7.1) high-definition audio and integrated NXT SoundVu speaker technology.

The GZ7108 and ZX190 models both include an Intel Core 2 Duo T5250 dual-core processor and 2GB of dual-channel DDR2 (double data rate 2) RAM, while the GZ7220 includes an Intel Core 2 Duo T7250 dual-core processor and 3GB of DDR2 RAM. If you think that an all-in-one PC won't have much room for data storage, think again, because these models boast 320GB, 400GB, and 500GB SATA II (Serial Advanced Technology Attachment) hard drives, respectively. They also pack in a surprising number of ports—seven USB 2.0 ports and one FireWire port. A wireless keyboard, wireless mouse, Web cam, and media center remote control are also included with each model.

Sony also has released an all-inone model, called the VAIO LT. Sony markets this product as a PC/TV combination. It comes with a 22-inch display and an optional Blu-ray Disc optical drive. The

VAIO LT also features an Intel Core 2 Duo processor, 2GB of RAM, and a built-in camera and microphone. The display features Sony's XBRITE-HiColor LCD technology, complete with a glare filter and antireflective coating.

Like the Gateway One, the VAIO LT includes a wireless keyboard and mouse. An audio/video

If you think this looks like a monitor, keyboard, and mouse, you're partly correct—there's also an entire, powerful computer in this all-in-one design from Gateway.

quick-resume switch lets users quickly turn the TV off and on without waiting for the PC to shut down or boot up. The VAIO LT (model VGC-LT15E) with Windows Vista Home Premium is \$1,899.99, while the VAIO LT HD (VGC-LT19U), which includes a Blu-ray Disc drive and Vista Ultimate, is \$2,899.99. A midrange model (VGC-LT18E) is available for \$2,049.99 and includes a faster processor than that included with the entry model (2.2GHz vs. 1.5GHz), as well as the ability to record digital, analog, and cable TV.

STORAGE

Storage Gets Personal

igital media such as pictures, music, and movies can consume hard drive space so quickly that many users now must think twice about what exactly they wish to save.

The good news is that hard drive manufacturers are not only providing more affordable products, but they're also creating products geared for specific storage uses.

For example, a new line of external drives from Western Digital targets different types of home users and is available in several storage capacities. For instance, the 500GB My Book Home Edition (\$219.99; www .wdc.com) features triple interfaces, including USB 2.0, FireWire, and eSATA (external SATA). According to the company, this drive is designed for home users who want to save "precious memories" contained in digital photos and videos.

However, the drive includes more than the ability to perform simple storage duties, as it also includes automatic, continuous backup that works in the background and data synchronization and encryption. A capacity gauge indicates how much storage is available on the drive, while a SmartPower

> feature powers the drive on and off along with the computer.

> The My Book Essential Edition 2.0 (\$169.99 for 500GB) aims for simplicity with a USB 2.0 interface and little else. Also available from Western Digital's classic editions of My Book external drives is the My Book Premium Edition (\$199.99 for 500GB), which, despite the name, also is a step down from the Home Edition. The Premium Edition offers USB 2.0 and FireWire interfaces, a capacity gauge, and backup software.

> The new My Book line of external hard drives from Western Digital targets different types of home users with varied storage amounts, interface options, and bundled software.



DISPLAYS

Sony Debuts Pricey OLED TV

7 hen new technologies find success in the massive consumer electronics arena, they typically find their way to the computer market, and vice versa. For this reason, the OLED (organic light-emitting diode) TV movement bears watching, particularly as several manufacturers begin to introduce models that could begin to give LCD and plasma TVs and monitors a run for their money.

Sony announced plans to launch its XEL-1 OLED TV in Japan on Dec. 1, a launch that would represent the first major company to release such a television.

SONY watts of power.

However, this launch is typical of other cutting-edge technology debuts: not much product for the money.

> Sony's XEL-1 display is just 11 inches, though the screen is a scant 3 millimeters thick, at a price of about \$1,700.

OLED screens not only require less power to run than other displays, but they also feature better color re-creation, brightness, and viewing angles than LCD and plasma televisions, and they boast faster response times. For example, Sony claims its XEL-1 has a contrast ratio of 1,000,000:1 and consumes only 45

PRINTERS & PERIPHERALS

Logitech Refines The Mobile Mouse

f you've seen or used Logitech's VX Revolution mouse, **⊥** you know that the company did an admirable job of shrinking its innovative MX Revolution mouse to accommodate the smaller profile necessary for mobile computing. But if you also thought the VX Revolution could have used a few more tweaks, you were probably right-and apparently Logitech agrees.

The new VX Nano Cordless Laser Mouse for Notebooks (\$69.99; www.logitech.com) takes the basic design of the VX Revolution and integrates the concept of addition through subtraction. At first glance, the Nano looks strikingly similar to the Revolution, but it's actually slimmer, allowing it to fit more easily into cramped notebook cases. Like the Revolution, the Nano includes Logitech's Micro-Gear precision scroll wheel, which allows users to scroll with nearly no friction through large documents.

The biggest—or technically smallest—upgrade is the new nano-receiver, which is roughly the size of a nickel and almost unnoticeable when plugged into a USB port. According to Logitech, the nano-receiver can stay plugged into the notebook when not in use, which boosts convenience. In addition to the expected Forward and Backward buttons, the VX Nano includes five programmable buttons that can be altered through the included SetPoint software.



The Logitech VX Nano not only features a slimmer design than its predecessor, but it also includes a tiny USB receiver that's barely noticeable when plugged into a port.

CPUs, CHIPS & CARDS

Three's No Crowd For AMD

ual-core processors not enough to power your desktop computing experience? How about triple-core? If that sounds tantalizing, you're in luck, because that's precisely what AMD has in store with its new Phenom processors, which integrate three cores on a single silicon die.

"With our advanced multicore architecture, AMD is in a unique position to enable a wider range of premium desktop solutions, providing a smarter choice for customer and end users," said Greg White, vice president and general manager of AMD's Desktop Division.

Based on Direct Connect Architecture, the Phenom chips feature an integrated memory controller that boosts the performance of productivity, content creation, entertainment, and gaming programs. That architecture also includes the company's Balanced Smart Cache, which delivers quick memory access. Graphics performance is

> increased through the inclusion of HyperTransport 3.0 and up to 16GB per second of high-bandwidth I/O (input/output). The frequency adjustments to each processor core are controlled through AMD's Cool'n'Quiet 2.0 technology.

The triple-core Phenom joins AMD's dual-core Phenom X2 and quad-core Phenom X4. According to AMD, the triple-core Phenom provides significant gains over dual-core AMD processors when using standard benchmarks such as SYSmark 2007 and 3DMark 2006, and it matches certain benchmarks when compared with AMD quad-core processors.

DIGITAL MISCELLANEA

Zune Turns Over A New Leaf

n a digital media generation that revolves almost entirely around Apple's iPod, it's tough for other manufacturers to survive. However, that doesn't mean others are throwing in the towel just yet, and Microsoft is leading the way with an impressive revamp of its Zune music player.

Initially released in September 2006 to mixed reviews, the Zune line has been refreshed, with Microsoft announcing two new flash-based models with price tags of \$149 for a 4GB and \$199 for an 8GB model, along with an 80GB hard drive-equipped model for \$249. If you think those prices sound familiar, that's because they indeed mirror the prices of Apple's iPods.

The two most significant changes to the Zune are the new Zune Pad and wireless sync. The Zune Pad is a touch-sensitive button that lets users easily navigate through song or album lists or scroll through pictures or videos. The wireless

> sync feature lets users automatically sync their devices over their wireless home networks-the process begins when the device is placed in its dock or plugged in with its charger.

> The Zunes also let users share certain full-length songs, albums, playlists, and audio podcasts from device-to-device, with the ability to listen to any song up to three times with no restrictions. Microsoft has also revamped the Zune Marketplace, which will now feature more than 1 million DRM (digital rights management)-free MP3s.



PROBLEM-SOLVER: TROUBLESHOOTING THE NEWS

My optical drive isn't automatically detecting discs.

If you have Windows Autoplay enabled but your CD or DVD drive isn't automatically detecting discs, you might have encountered a bug that can prevent Autoplay from working as it should. Microsoft created an Autoplay Repair Wizard that can usually fix this problem. Go to support.microsoft.com and search for Autoplay Repair Wizard to find and download this wizard.

Why is there a red shade behind text on my LCD monitor?

If you're using the ClearType option in Windows (particularly in Windows Vista), you might need to tweak it to resolve potential problems such as this. Try using the free ClearTweak program, which can improve the default ClearType settings and fix problems. This program can also improve the look of CRT (cathode-ray tube) displays. Download it from www.ioisland.com/cleartweak.

How can I move my USB printer far from my PC without affecting performance?

USB specifications indicate that devices shouldn't be located farther than about 16 feet away from the computer to avoid performance issues. However, you can link together

USB repeater cables, which regenerate the USB signal throughout the length of the cable.

My CPU monitoring utility always shows my CPU temperature as 32 degrees Fahrenheit. Is this correct?

Not only is this temperature strikingly low, but if it never changes, your motherboard likely isn't reporting the temperature correctly, if at all. Check with the motherboard manufacturer to see if a BIOS (Basic Input/Output System) update is available for the board. If there is, carefully follow the manufacturer's directions for updating, or "flashing," the board with the new BIOS.

CONVERGENT TECH: PDAs & SMARTPHONES

Consumers Not Shying Away From Mobile Services

or years, consumers have been rincreasingly bombarded with advertisements touting entertainmentfocused services from mobile providers. But how many entertainment services are you using on your mobile device? Do you even care to use any? New research from In-Stat reveals that consumers remain gung-ho about mobile content and show interest in emerging video services.

An In-Stat survey of 2,049 consumers from the United States, France, and the United Kingdom found that 45% of U.S. respondents (and similar numbers in the other countries) were "extremely/very interested" in going completely mobile that is, dropping their landline telephone service and using only their mobile phones, though one condition was that they could use their inhome broadband connection for calls placed from home. Another 33.5% said they were "somewhat interested."

Another In-Stat survey discovered that while voice service and information-based activities such as texting and email continue to account for much of the use of mobile devices, other activities are certainly in the

mix. Nearly 50% of respondents said they use mobile services for information and camera-based activities, while 35.1% use only voice services. Game, video, and music activities were used by 16.3, 11.2, and 10.9%, respectively.

According to the research firm, consumers will further embrace mo-

bile entertainment services in the next three years. When asked about how different age groups will adopt mobile entertainment, more than 60% of survey respondents said they felt that people between the ages of

35 and 45 will be "more mainstream" when it comes to using mobile phones for entertainment.

In-Stat research also shows that consumers have a growing interest in mobile video services. A study found that consumers have similar amounts of interest in a range of services, including out-of-band video, such as DVB-H (digital video broadcasting-hand-

> held) and MediaFLO; free-to-air services, such as Japan's 1-Seg and the ATSC (Advanced

> > Television Systems Committee) mobile and handheld proposal; 3G-based video clips, such as those used with Verizon Wireless' V CAST; and video associated with local cable operators, such as Sprint's Pivot service.

In a white paper titled "Global Mobile Entertainment Evolves in the Real World," In-Stat analyst Gerry Kaufhold writes, "Consumers are now enabled to find the content they want, use it as they see fit, and then share it among members of their 'micro-user community' using buddy lists. They can also link directly to a variety of Internet portals to share what they like and cross-pollinate with wider social networks."

"The particular area of the brain where the blood-flow change occurs DULY QUOTED should provide indications of the brain's metabolic changes and, by extension, workload, which could be a proxy for emotions like frustration."

> —Sergio Fantini, a biomedical engineering professor at Tufts University, comments on research that uses a computer to determine whether you are overworked, under-worked, or not working at all.

Source: FOXNews.com

News From The Help Desk

Our Most Common Tech Calls

COMPILED BY KYLEE DICKEY

Each month, we receive numerous technical support calls and email messages. Some computer problems are fairly common, and we find that many callers struggle to resolve the same issues. In this article, we cover four of the most common or timely tech support questions and provide our solution for each of them.

When I type the URL of a Web site I want to visit in the Address field of my browser, I either see a message that my search did not match any documents or a message that starts with, "Did you mean ..." What did I do wrong?

Look at the screen with the error message. Do you see the Google logo at the top of the screen? If so, you probably typed the URL in the wrong field. Many modern Web browsers, including Internet Explorer 7 and Firefox, have two fields in which you can type on the toolbar. One is the Address field, and the other is a Google search field. If you type a URL in the Google search field, instead of loading the Web page located at that URL, your Web browser displays the results of a Google search for the string of characters in the URL.

If Google has included the site in its index (Google's catalog of all of the Web pages it has located and deemed significant Internet content), you will either go directly to the Web site, or you will see a list of search results, including the site to which you wanted to go.



When you type the URL of a site you would like to visit, make sure you use your browser's Address field rather than a Google search field.

However, if Google has not indexed the URL that you typed in the Google search field, you will see either a message that your search did not match any documents or a message that starts with, "Did you mean . . ." You may also see one of these messages if you type the URL in the Address field (as you should), but you mistype the URL.

It is fairly simple to tell the difference between the Address field and the Google search field. Sometimes the Address field is actually labeled Address. The Address field should have a small icon on the left side, usually a globe, an IE icon, or something similar. In contrast, the left edge of a Google search field has a blue G icon. Make sure you type the URL in the Address field rather than the Google field, and the page should load properly.

Is it possible to tell how much memory is installed in my computer without opening the case?

Yes, you can quickly determine how much memory is installed, and you don't have to turn off your computer, use a screwdriver, or open the case. Just click the Start menu and Control Panel (or Settings and Control Panel in Windows 9x/Me). Then double-click System. (If you don't see System, click the Switch To Classic View link in the left pane and then double-click System.) In the resulting System Properties dialog box, click the General tab. Under Computer, you'll see two items listed. The first is the installed processor. The second is the amount of memory installed in your computer. When you're finished, click the OK button to close the System Properties window.



You don't need to open your case to see how much memory is installed in your PC.

I don't have an Outlook Express email account, but I opened Outlook Express recently and saw email messages in the Outlook Express inbox. Where did they come from?

This is a question that we hear a lot at the tech support desk. The confusion lies in the difference between an email account and an email client. Your email account is the email address you have, such as johndoe@genericaddress .com. This is the address people type when they want to send an email message to you. Most email accounts provide an option to use a Web mail system. These Web-based systems let you visit a Web page, such as webmail.roadrunner.com, to sign in, read, and send email messages from your email account. Another example of a site you might visit to check Web mail is www.gmail.com. One important thing to remember about Web mail is that it is specific to your email account. You cannot log in to Roadrunner's Web mail system and check your Yahoo!, AOL, or Gmail accounts. You can only view your Roadrunner email from Roadrunner's Web mail system, and when you log in to your Gmail account at www.gmail.com, you can only view your Gmail messages.

Now that we have a firm understanding of individual email accounts and the basics of Web mail, let's take a look at email clients. An email client is a program, such as Microsoft Outlook Express or Windows Mail, that you can install on your computer and configure to download copies of your email messages from your email account. In order to download messages with an email client, your email account must support a technology such as POP (Post Office Protocol) or IMAP (Internet Message Access Protocol). Your ISP (Internet service provider) can tell you if your email account supports one of these protocols.

When you use an email client to check your email, the software contacts your ISP's server where your email messages are stored and downloads copies of the messages to your computer's hard drive. Thus, you can read your email messages later, even if your computer is not connected to the Internet.

You can also use an email client to compose email messages. One reason many people like to use an email client to compose email messages is because you can type the message while you're offline and then send the message when it's complete. If you use a modem, this means you don't have to tie up the phone line while you write your messages. Just connect to the Internet when you're done writing your messages so that your email client can send the messages you wrote. Also, you don't have to worry about losing the work on a message if your Internet connection is interrupted. In contrast, when using Web mail to type a message, you may lose your work if your Internet connection is dropped. Finally, an email client can collect email messages from several email accounts. Your email client's inbox may contain messages downloaded from your Roadrunner, Gmail, and work accounts.

As you can see, Outlook Express is not an email account but a program that you can use to check your email. When

you see messages in Outlook Express, it is because your copy of Outlook Express is configured to download email from at least one of your email accounts.

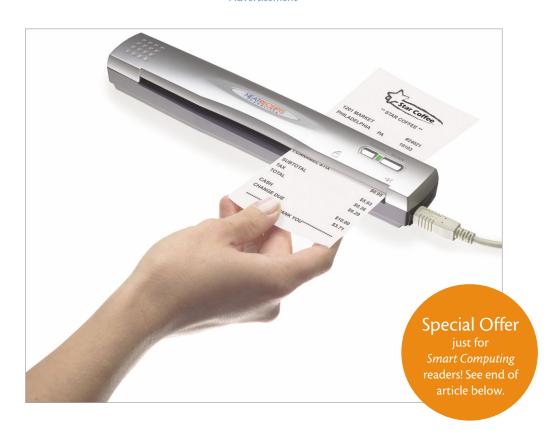
What does the acronym "UL" on my new surge protector's package mean?

UL stands for Underwriters Laboratories, an organiza-A tion that is responsible for product safety testing and the establishment of industry safety standards. You can use the UL information on surge protector packaging to ensure that you buy the right device, that it will protect your device, and that it is safe to use in your home. For example, some simple power strips, which do not provide surge protection, can look a lot like an actual surge protector. The UL information on the device's package can help you tell the difference between the two. When shopping for a surge protector, you should look for "UL Listed Transient Voltage Surge Suppressor" on the package. This means that UL has determined that the device does provide protection from power surges and that it is more than just a simple power strip. You should also ensure that the packaging says "UL Code 1449." UL has established Code 1449 to indicate that an electronics device is safe to use in your home.

Feature Package Topics

Each Smart Computing issue includes tips, reviews, and information about a variety of topics. However, each issue also has a featured group of articles about a selected topic. Below is a list of the Feature Packages from the previous year. As a Smart Computing subscriber, you have access to all of our archived articles at www.smartcomputing.com.

December 2006	Make Your PC A Computerized		
	Media Center		
January 2007	My PC Won't Start!		
February 2007	7 Critical Things You Should Know		
	About Your Operating System		
March 2007	Resolve System Conflicts		
	The Fast & Easy Way		
April 2007	Windows Vista: What You Can Expect From		
	Microsoft's New Operating System		
May 2007	Set Up & Maintain A Wireless		
	Network & Keep It Connected		
June 2007	Tweak & Troubleshoot Windows Vista		
July 2007	Clean It Out, Speed It Up!		
August 2007	Improve System Startup/Shutdown:		
	Make Your PC Faster & More Stable		
September 2007	What To Do About PC Errors &		
	Error Messages		
October 2007	Build It Yourself: How To Create The Perfect PC		
November 2007	How To Edit, Protect & Restore		
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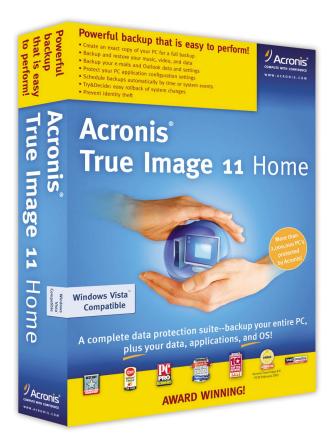
- sync it with Outlook, Plaxo, or vCard.
- PERSONAL TAXES: Simplify tax preparation with digital images of receipts organized by their appropriate tax form and schedules.
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When Worlds Collide

A Baby's Voice Wins Out

Blaine Flamig

Send your comments to blaine@smartcomputing.com





aybe I'm going crazy, but I swear the baby growing inside my wife's belly has been speaking to me from the womb, forcing me to look at things from a new, often disturbing perspective. Take hardware, for instance. I'm not a great appreciator of "cute," and I rarely place looks over performance.

> Sure, there's a place for companies that stress aesthetics over functionality, but my buying priorities almost always rate performance, comfort, appearance—in that order. Baby Voice, though, is making a mess of such sensibilities.

> Take, for example, the horrifying turn my life recently took upon cracking open a box of visually delicious audio-video peripherals Dutch manufacturer boyng (www.boynq.com) sent me. My first thought was, "I wonder if these sound as good as they look?" Baby Voice, however, swooned, "I don't care how they sound; they'll look cute in my room!" Great, months until she shows her face and she's already giving me lip. It's been a decade since my last child shrieked into existence. The intervening years have left me more weathered but wiser. I'm smart enough, for example, to have started stockpiling an arsenal of lullabies, whale songs, and every "Wheels On The Bus" remake I can rip, buy, and download. I say the iPod dock I own is fine for engaging Baby musically. Baby Voice

says it doesn't "tie her room together" like boynq's iCube II (\$69.99) dock. Oh, brother.

My telekinetic offspring also (rightfully) says "Wheels On The Bus" won't sound much better whether piping over surroundsound speakers or a Fisher Price record player. Baby Voice also insists any dock in her room has to match the new paint job and curtains and can't take up too much space. (Jeez, it's as if she and her mother really are one.) The iCube II easily meets her requirements, and truthfully, that the iCube II's midrange audio and volume strength is average (20Hz to 20Khz frequency range; 10W RMS [root mean square] power; left and right speaker drivers) doesn't rate as highly as the dock's space-friendly 4-inch size or snazzy, glossy pink-and-gray exterior.

I don't like the iCube's distracting text labeling, but boyng's otherwise minimalist design is appreciated, particularly the soft LED (light-emitting diode) and unobtrusive dials. The dock/charger places its four ports (AC, line in, line out, and iPod adapter) at back, so hiding cords and cables is a cinch. Although bothersome to me, Baby Voice says it's OK that the iCube II doesn't run on batteries or include an alarm clock. She plans to sleep whenever she wants, and her brother and sisters won't be borrowing her dock.

I've also been smart enough to start strategizing my multimedia assault on relatives and friends from Pennsylvania to California via digital photos, instant messaging, video clips and conferencing, and possibly VoIP (Voice over Internet Protocol) conversations. I already own a digicam, Web cam, and microphone, all chosen with a nod toward performance over appearance. But holy pacifier if Baby Voice didn't chime in when I unpacked boynq's alibi (\$69.99), a Web cam that's also a standalone speaker.

Baby Voice agrees that my multimedia gear will do for now (I suspect because none of it will sully her room), but she's adamant that the alibi's clever, pop-up design will make a great Christmas gift for grandparents and expedite real-time gaga-ing with relatives. As a speaker, the alibi is serviceable (5W RMS; one 2.5-inch speaker driver). As a Web cam, the 1.3MP (megapixel) (640 x 480 video captures) resolution, auto visual settings, and echo-cancelling technology for the included mic are better. More importantly, Baby Voice says, the alibi's Earth, Wind, Fire, and Water colors (pastel green, purple, red, and blue) will accent any room. (Wise beyond her non-years, this one.)

Albeit troubling, I've enjoyed Baby Voice's perspectives. I only hope once she arrives, she'll let me return to the humdrum, brawnover-beauty lunkhead I'm happy being. I have my doubts, though.

Hi-Tech Leash

RoamEO Is The Ultimate Pet Finder

Joshua Gulick

Send your comments to joshua@smartcomputing.com

eing a writer, I see far too many silly product names. In fairness, I've written my share of humor-stretching article titles, but I'm surrounded by eagle-eved editors who catch those editorial bumbles before they reach you. Product manufacturers, it seems, don't feel the need for such oversight.

With any attempt to be witty, you really

need to hit the mark. Otherwise, your cleverness will fall flat and your audience will groan (or write letters to your editor). Of course, it's worth the risk: A funny, relevant name makes a worthy product that much more interesting.

With that in mind, I really like the name of a new GPS (global positioning

system) collar that lets you track your dog while he's out. The RoamEO Pet Location System (Get it? Get it? Ah, Shakespeare, if only you were around to bask in the commercialized glow of your work) device does just what its name implies: It lets your canine roam and answers that timeless dog owner question: Wherefore art thou, Sparky?

If you've ever spent a late afternoon

searching the park for your dog while the rest of the family waits in the car, you'll appreciate RoamEO. The handset's built-in display lets you know where the dog is and where he's going so you can reach him faster and get your family on the road more quickly.



The RoamEO Pet Location System features two main components: the handset and a collar. You can buy additional collars in a variety of neck sizes for \$159 each. The handset, which can track up to three collars at once, interprets signals from GPS satellites to determine your position and each collar's position in relation to you.

As long as your pup is within the handset's 1-mile range, the handset displays a small, colored icon that represents one of the collars. If your dog wanders more than a mile from you, the display will show his most recent known location. He'll reappear on the display as soon as one of you moves back into range. You can also use the device to create a virtual fence so that the handset alerts you when Sparky is straying too far.



To test RoamEO, I enlisted the help of my neighbor's dog, Jack. Thanks to the collar's simple clasp, I easily snapped the band onto Jack, who promptly walked over to his water bowl and tested the GPS unit's waterproof shell. Happily, the collar survived the dunking without incident.

I let Jack roam and immediately discovered that the handset displays Jack's speed, or lack of speed, in this case. Thanks to his short legs and attention span, Jack's gait never exceeds a brisk trot. The handset also estimated Jack's distance from me with surprising accuracy, even under a cloudy sky.

A Bone To Pick

Overall, I like RoamEO, and not just for its name. The device is a great dog tracker, and it's sturdy enough to handle the sort of wear and tear that day-long hikes involve. The price isn't unreasonable, either; GPS devices of any kind are pricey. During the times that you want to let your dog off the leash, RoamEO is great to have on hand.

So, I don't have any complaints about RoamEO doing what it's meant to do. I do wish, however, that its batteries would let it do more. The collar's battery lasts for only 10 to 12 hours. That's plenty of time for a day trip, but unless you plan to charge up the collar every night, RoamEO isn't the right tool for someone who wants to be able to find her dog when it sneaks out the back door next week. White Bear tells me that it will offer a collar with a 36- to 48-hour battery life in the Spring of 2008, around the same time it launches a cat-sized collar.



RoamEO Pet Location System

\$549.95 (includes one collar) White Bear Technologies (888) 476-2636 (651) 636-5695 www.roameoforpets.com



RoamEO Collar

\$159

Canon PowerShot G9

A Camera To Grow With

Kathryn Dolan

Send your comments to katie@smartcomputing.com

'm not getting any younger, and neither is Brett Favre, so when the opportunity to take my son to a Green Bay Packers' game (yes, the one during which he broke Dan Marino's career touchdown passing record) presented itself, I jumped at it. And I took the best camera I knew I could operate; a game like that is no time to

> be learning how to master new features on a camera.



A few years ago, you'd have had to pay several thousand dollars and buy a D-SLR (digital single-lens reflex) camera to get features such as 10X optical zoom, 12.1MP (megapixels), and full-manual control, not to mention the ability to take pictures in RAW format and swap lenses. Today, though, you can get an advanced compact camera with those features for less than \$500.

The Canon PowerShot G9 (\$499.99; www.usa.canon.com) is an amazing little camera. At my current skill level, I wasn't able to take advantage of the camera's manual controls at the

game, but the features are there, and I'll soon be able to use them to their potential. Over the past year, I've taken pictures with a dozen point-and-shoot cameras, and I'm ready to move on. However, I'm not yet proficient at gauging the light in a given situation so I can properly adjust the ISO, aperture, or shutter speed.

Slowly Master The Learning Curve

Leisurely taking pictures of the leaves as they turn on the trees in my backyard has let me experiment with the light on sunny mornings; overcast, storm-threatened afternoons; and the early dusk of fall evenings. The G9 is a remarkable camera for many reasons, but the ability to switch between auto and manual controls makes it especially attractive to a shooter like me. I want to take pictures beyond the abilities of a point-and-shoot camera, but I've not yet mastered the learning curve necessary to operate a D-SLR camera. The G9 is for those of us who want the features of a more powerful camera and the ease of use of a point-and-shoot.

Experimenting at home, I fooled around with the various settings, deliberately getting really grainy images in dim light when I increase the ISO and freezing action shots by increasing the shutter speed.

As mentioned, though, I didn't want to experiment with once-in-a-lifetime photos. The light in the Minneapolis Metrodome on that stormy Sunday afternoon was tricky. The upper deck where my son and I were sitting was in shadowy darkness while the field was bathed in exceptionally bright, multisourced lights to prevent shadows for the television viewers. I thought it best to let the camera adjust itself. I flipped the mode dial to Auto and took pictures of my son in the dimly lit upper deck, the Packers as they warmed up before the game, and the action on the field during the game.

Worth A Thousand Words

I can take credit only for framing the shots. The camera took the dazzling pictures. It captured the deep bluish purples of the seats in the 'dome; the rich, grassy green of the field with the vibrant white yard markers; the brilliant reds, whites, and blues of the American flag hanging above the home team's end zone; and the rich greens, yellows, purples, and whites of the fans clad in their favorite players' jerseys. Of course, it also captured the stubbly, smiling face of Brett Favre as he hoisted Greg Jennings over his shoulders in a celebratory fireman's carry.

The Canon G9 is a perfect camera to grow with. Today, I won't miss important shots while fumbling with controls I haven't quite mastered, and tomorrow, once I'm comfortable, I'll be able to take shots I've set up with confidence.





PowerShot G9

\$499.99 (800) 652-2666 www.usa.canon.com

Trying Out A Trio

Baby, Mama & Papa Drive

Marty Sems

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\$69.99 Sony (877) 865-7669 www.sonystyle.com



BDC-2202

\$299 Pioneer (866) 214-1310 www.pioneerelectronics.com



GGW-H20L \$499 LG

(800) 243-0000

us.lge.com

ptical drives may seem muddled lately with all the BD (Blu-ray Disc) this and HD DVD (High Definition DVD) that. Actually, your choice is still pretty clear.

If you want a fast, \$35 drive that can store up to 8.5GB per \$1.25 disc, buy a DVD burner. If you can't live without watching high-definition movies on your computer, you'll spend much more on a drive that can read BD and/or HD DVD. Writing BD costs extra, and you'll have to spend \$11 to store 25GB. And HD DVD burners technically exist, but good luck finding one.

To give you an idea of your current optical drive options, I gathered a basic DVD burner, a Blu-ray reader, and a BD writer/ HD DVD reader. The chart details how long it took each drive to write large folders to Verbatim and other discs.

Sony DRU-840A

First up is Sony's new 20X DVD burner with an IDE (Integrated Drive Electronics) interface. You'll get Nero Express 7 software plus toll-free tech support at (800) 588-3847.

This Sony errored out of my read rate and access time benchmarks, as it couldn't handle my moderately scratched test disc.

Still, the DRU-840A is the fastest drive here and the least expensive.

Pioneer BDC-2202

This DVD burner with a SATA (Serial Advanced Technology Attachment) interface can also read Blu-ray.

Typically, I've found BD and HD DVD drives to be slower at writing DVDs and CDs than inexpensive DVD burners. This Pioneer fits the trend. It comes with Corel software, including Ulead Burn.Now SE, Ulead Video-Studio 11 SE, and WinDVD 8 LE.

LG GGW-H20L

Breaking the bank at \$499 is this SATA Swiss Army knife. It can read and write any format except HD DVD (read only). And it's almost as fast a writer as the Sony.

LG bundles CyberLink software with the GGW-H20L. Note that there's a slightly cheaper LG drive, the GGC-H20LI (\$399). It drops Blu-ray writing but still gives you a DVD burner that can play BD or HD DVD.

HD On A PC

My test system, which could play highdef movies, had an Intel Core 2 Duo E6700 (2.66GHz) dual-core processor, 2GB of DDR2 memory, an AMD Radeon HD 2600 XT graphics card, CyberLink PowerDVD 7.3 Ultra video playback software, a Samsung 245BW monitor, and Windows Vista Home Premium.

	Sony DRU-840A	Pioneer BDC-2202	LG GGW-H20L	
Capabilities	DVD, CD read/write	BD read; DVD, CD	BD, DVD, CD read/write; HD	
Capabilities		i i		
	20X DVD±R, 12X	read/write	DVD read	
Advertised Write Speed Ratings	DVD±R DL, 12X	5X BD (read), 12X DVD±R,	6X BD-R, 4X BD-R DL, 3X HD DVD	
	DVD-RAM, 48X CD-R	4X DVD±R DL, 5X DVD-	(read), 16X DVD±R, 4X DVD±R	
		RAM, 24X CD-R	DL, 5X DVD-RAM, 40X CD-R	
LightScribe	No	No	Yes	
BD-R burn 20.6GB*	N/A	N/A	51:54	
BD-RE burn 20.6GB*	N/A	N/A	1:22:08	
DVD+R burn 4GB*	5:48	7:50	6:22	
DVD-R burn 4GB*	5:54	7:28	6:19	
DVD+R DL burn 8GB*	13:47	26:58	27:18	
CD-Audio rip 58m*	2:42	3:38	2:33	
CD-Audio burn 58m*	2:36	3:53	2:27	
Read, avg/max**	Failed	3.79X/5.02X BD; 6.64X/11X	4.04X/4.06X BD; 6.11X/8.17X	
		DVD	DVD	
Access time, random/full (ms)**	Failed	91/360 BD; 164/331 DVD	"123/621 BD;138/275 DVD"	
* Hours:minutes:seconds. ** 1X BD = 4.5MBps (megabytes per second), 1X DVD = 1.35MBps, and 1X CD = 0.15MBps.				

Backup Software

Acronis True Image 11 Home Systems Supported Windows Vista Windows XP/2000

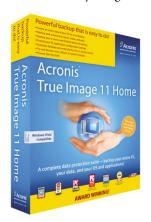
ou've heard it all before. Backups are a necessary part of computer life. But maybe, like all too many of us, you keep putting the backup task off to a tomorrow that never seems to come.

There's no reason to wait. These days, it's easier than ever to take out a little insurance against hard drive crashes, power spikes, stolen laptops, and all the other dangers your data faces. Today's backup programs make quick work of selecting backup sets, choosing data destinations, and restoring files when everything goes wrong.

We took a look at the features offered by four of the top backup applications.

Acronis True Image 11 Home

Acronis True Image 11 Home does about everything a backup program should do,



plus more. You can use it to back up your entire hard drive or just individual files and applications, create a system backup disc in case of a dire computer emergency, and complete incremental or differential backups. (Incremental backups copy the files that have changed since the last incremental or full backup you per-

formed, while differential backups copy only the files that have changed since the last full backup.) True Image also backs up email and provides message-level search and restore capability. Another plus is its ability to back up your application settings, so if you should ever need to do a system recovery, you won't have to go through the painful process of again personalizing Microsoft Office or iTunes.

Version 11's new Try&Decide feature builds in extra security. This tool creates a temporary workspace on your system where new software or suspicious files can be installed or opened without putting the rest of your PC in jeopardy. You decide afterward whether you want to keep the changes made by the new software or delete them. You can also create a "secure zone" on your hard drive for backup and bootable rescue data. Acronis also includes other security measures such as Drive Cleanser and File Shredder that can erase hard drives and eradicate individual files. That doesn't have



a lot to do with backup, but it is helpful if you're recycling a PC or sharing it.

True Image's interface is professional and easy to navigate, with four categories on the home screen: Backup And Restore, Try&Decide, Disk Utilities, and Management Tools. Above the category buttons is a "traffic light bar;" its color changes depending on your security level. There's a wizard for all the primary functions, which takes all the guesswork out of creating a backup, launching a recovery operation, or any number of other tasks. If you do get lost somehow, True Image's comprehensive help files should show you the way. Online help is also available.

PC Backup Pro V8

Don't let the company name confuse you—this is the same application previously marketed by StompSoft, just wrapped in a new package. PC Backup Pro is a bit like a Geo Metro in a garage filled with Toyota Land Cruisers; sure, it will get you where you're going, but the ride won't be all that interesting.

The main screen offers links to four wizards: Backup, Restore, Copy, and Disaster Recovery. Each wizard opens a rather bland window with simple options. Unlike other programs we tried, PC Backup does not







BUYING TIPS

Look for an application that supports all the backups you might need to employ: full backup, incremental backup, and differential backup. This saves you both disk space and precious time without a fully functional PC. Also, you'll want an app that can back up all types of data, including email if that's something you don't just read and toss.

include predefined "profiles" of commonly backed up data such as email or the Windows Registry. You can still back up those files, but you'll need to hunt them down on your own. PC Backup will write to optical drives, but it does not have the built-in ability to back up to remote servers via FTP (File Transfer Protocol).

The Restore function is also pretty utilitarian. Users pick a backup set, select files from within the set, and choose where the files will be saved. Filters can be used to automatically select files to restore.

The Copy wizard is almost exactly the same as the Backup wizard. Given that any backup program is essentially a copying program, a separate Copy function doesn't actually add much. The Copy wizard does provide a mirror option, which is good for keeping two folders or drives in sync.

Backups can be made "disaster recovery compliant." If you choose this option, the program adds to your selected file set the entire Windows and Program Files directories, as well as other files you can use to start over from a hard drive crash. Selecting this option adds a considerable amount of data to a backup.

PC Backup does offer help files, many with helpful screenshots. Users can also submit questions using an online message form. Overall, PC Backup is a decent, relatively basic backup program, but for the same money, you can buy programs with additional features.

Genie Backup Manager Home V8.0

Genie Backup is a well-designed program that leaves no excuse for failing to safeguard your files. The program has an "easy" interface setting, but the standard option is pretty easy itself. A huge Backup button leads directly to a screen setting out the steps to make a new backup routine.

Users new to backups will appreciate Genie's Profile view, which lets you quickly select important files for backup that might be difficult to track down, such as email, the Windows Registry, and browser settings. You can also do a mix of items from



the profile list and a standard folder browsing window. A filter option allows more advanced users to set up rules to exclude files with particular characteristics.

Automatic scheduling of jobs is simple, as well. You can set a backup to run every few hours, once a day, weekly, monthly, or at Windows login. Laptop users can tell Genie to hold off on a backup if the computer is running on batteries. Backups can be full, incremental, or mirror.

Software Information					
	Price	Company	Contact Information	URL	Notable Features
Acronis True Image 11 Home	\$49.99, free trial	Acronis	(781) 222-0920	www.acronis.com	Easy to navigate; creates both full and incremental backups; backs up application settings; includes file shredding and drive cleaning utilities
PC Backup Pro V8	\$59.99, free trial	Migo Software	(650) 232-2600	www.migosoftware.com	Works with optical drives; in- cludes mirroring option to sync folders or drives
Genie Backup Manager Home V8.0	\$49.99, 30-day free trial	Genie-Soft	Online only	www.genie-soft.com	Easy way to automate backups; intuitive interface; disaster recovery backup includes OS in restore file
NTI Backup NOW! 4.7 Deluxe Suite	\$69.99; 30-day/ 7 uses trial	NewTech Infosystems	(949) 421-0720	www.ntius.com	Numbered steps simplify backups even for beginners; filters allow users to target files for customized backups; span option saves backups across multiple removable disks



BUYING TIPS

All of the titles we reviewed offer free trials to prospective customers—take advantage of these offers to find the backup that best suits you and your PC.

Genie offers the full gamut of backup location options. It can send the job to a network drive, remote FTP locations, directly to removable media such as optical drives or flash drives, or, for an extra fee, Genie's online server. Genie will span multiple disks for big jobs.

Restoring a backup is equally simple. Genie remembers the backups it has performed and where the files were stored, so you can usually just pick the latest backup from a list. If necessary, you can also browse to a backup file manually. Once a backup set is selected, you can choose to restore only certain files or the entire thing to the original location or an alternate location.

Genie also includes a special Disaster Recovery mode, which backs up your entire system along with the operating system. When restoring a disaster recovery backup, you won't need your Windows setup disks or serial number; everything necessary to get your system running again is included in the restore file.

Genie's product support is average; look to the Web site for an online, email-style help desk, or you may be able to get a question answered by instant messaging.

NTI Backup NOW! 4.7 Deluxe Suite

NTI Backup NOW! lives up to its name. Even users unfamiliar with backup software should be able to quickly define and schedule a backup by following the simply numbered steps that feature prominently

on the interface.

Open NTI and you can't help but notice the EasySteps column on the left. The six buttons there, labeled 1, 2, 3, Start, Schedule, and Help, take users directly to all of the critical sections of the program. Step 1 offers two ways to select files to back up: by browsing through folders or by picking preselected sets of files on the My Profile tab.

Once you've picked files, NTI assumes you'll eventually be tempted to click the big number 2. This leads to the screen where you decide where the backup should be stored. As with its competitors, NTI can save files directly to optical drives and

remote services via FTP. Click 3 and you can pick the type of backup: full, differential, or incremental. Mirror backup is not among the choices offered.

Additional options can be accessed through a button at step 3. NTI includes customizable rules for filtering files in or out of the backup set. The program will also span media if the backup grows too large to fit on one removable disk.



The next button, labeled Start, kicks off the backup. The Schedule button below that, however, is probably the better next step and seems a bit out of order. However, you can click on any step you want at any time to change options before actually clicking Start.

Restoring works the same way. Users click a restore button in the main toolbar and then work through steps 1 through 3 on the left side. It took a bit more effort in NTI than Genie to locate a backup set and pick files to restore, but only a bit.

NTI includes the ability to make a backup image of an entire drive, including all documents, programs, the operating system, settings, and hidden files. This is a good option for complete disaster recovery, although it can take a lot of disk space and time depending on the size of the drive to be imaged.

There's not much to complain about with NTI, but it is priced a bit higher than Genie or Acronis: \$69.99 for the version with the disk imaging, \$59.99 without. As with the other programs, an online help form is about the extent of the available product support.

Back Up, Back Up, Back Up

Any one of these applications would serve most users well. The most important thing about backing up data is not the tiny details of the job, but that the job gets done, one way or another. II

BY ANNE STEYER PHELPS

Software Reviews

\$79 (NTFS version)			
Runtime Software			
(775) 884-3922			
www.runtime.org			
Scoreboard			
Ease Of Use	3		
Performance	4		
Installation	4		
Documentation	4		
Price	4		
Overall	3.8/5		

Systems Supported Windows Vista Windows XP/2000 Windows Me Windows 98

Recover Lost Files

GetDataBack v3.30

etDataBack is a program whose sole I function is to recover data from fixed or removable drives, including flash drives. It can retrieve data from drives damaged or rendered unusable by a virus, a power failure, or accidental formatting, even if you cannot boot Windows or the OS (operating system) does not recognize the drive. It also can recover files you have inadvertently deleted.

When your OS writes a file to a drive, it breaks it into data clusters and stores it all over the drive, depending on where free space

> is available. This lets it use drive space more efficiently. However, it introduces a need for special files that keep track of those clusters and store information about how the files and the folders on the drive are organized. GetDataBack not only scans your problematic drives for those data clusters and reaggregates them, but it also attempts to reconstruct the data cluster-

tracking files if they are corrupt or missing.

Caveat Emptor

Operation of GetDataBack is relatively easy, but there are a few caveats. First, there are two versions of GetDataBack—one for drives formatted as FAT (file allocation table, the file system used in early consumer versions of Windows) and one for those formatted as NTFS (NT file system, a newer file system for consumers running Windows 2000/XP/ Vista). It won't hurt you to use the wrong version on a drive, but it won't do any good either. GetDataBack won't recognize the drive.

Second, the setup program warns you not to install the program on the problematic drive, even if it is functional. This is because the program's best chance for recovering files occurs on drives where no data has been written since the problem arose. Third, if you are attempting to recover a crashed primary drive and not using the program to retrieve

damaged or deleted files from a functioning (if failing) drive, the recovery process can be very complicated. You'll have to remove the drive and attach it to a functioning PC (yours or someone else's) before GetDataBack can begin. If you are looking to GetDataBack as a drive recovery utility, read the Drive Recovery instructions at tinyurl.com/28a94x to ensure you are up to the challenge before you begin.

If you aren't dealing with a crashed drive, you can use GetDataBack to recover corrupt or deleted files from a functioning or failing drive, but you should still install the program to a secondary drive or be prepared for disappointment. Once the program is installed, you can use GetDataBack for file recovery during ongoing operation—it's not just for situations involving critical failure.

Not So Simple

No matter what type of recovery is involved, GetDataBack's process is straightforward, but we wouldn't call it simple. When you open the program, it asks you what type of problem the drive is experiencing, such as formatting or accidental erasure. If you are not sure, GetDataBack can work with the default settings. GetDataBack then searches your system for drives, lets you select the one on which it should work, and scans for file bits.

After it completes the scan, GetDataBack asks you to confirm the file system and then reassembles the bits and presents you with an Explorer-style pane listing files it identifies. If you are recovering deleted files from a properly functioning drive, this list will include both deleted/corrupt and operational files.

Depending on the condition of the files, the names might or might not match the originals, which can make identifying files confusing. However, GetDataBack did a good job of identifying file types and original locations. You can open a file in its creating program or view it before restoration. Optionally, once you purchase GetDataBack (the trial is scanonly), you can copy a file—or a restored file group or drive—to a new location.

BY JENNIFER FARWELL

Software Reviews

\$29.95		
Avanquest Softwa	are	
(720) 330-1451		
www.sendphotos.com		
Scoreboard		
Ease Of Use	5	
Performance	4	
Installation	5	
Documentation	2	
Price	5	
Overall	4.2/5	



\$50 Mystik Media (800) 819-7430 (910) 270-5251 www.mystikmedia.com **Scoreboard** Ease Of Use 2 Performance 5 Installation 4 Documentation 2 Price 5 Overall 3.6/5



Manage Photos

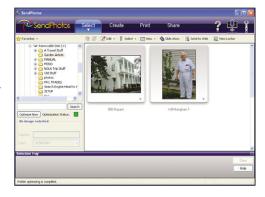
SendPhotos 5

S endPhotos 5 is a simple photo management, backup, and sharing program. If you're looking for fancy special effects, this program is not for you. However, for an easy way to organize digital images and gather them into attractive scrapbook pages, this inexpensive program offers real value.

Installation is quick and easy. It offers a Custom installation option, which only lets you change the installation location. Once you begin the program, SendPhotos 5 will attempt to connect to the Internet so you can create a SendPhotos account. This is not mandatory, but doing so gives you a 2GB online "photo locker" in which you can store images.

At first launch, SendPhotos5 offers to create a database of your photos, increasing photo retrieval and display speed. You decide which file types, locations (including userspecified folders), and sizes to include. The size feature helps exclude icons and other system graphics from SendPhoto 5's net.

Photo folders show up in a Windows Explorer-style pane, with collected photos



organized in folders by year and month. Select one or more photos to print or edit files and create or share Photo Stories. Photo Story layouts are basic, but adequate, and include the ability to add photo captions. You can also create custom themes to use. SendPhotos 5 will also optimize and compress your photos and Photo Stories to the level you specify, making them faster to send over the Internet.

Overall, we found working with the program a pleasant experience. It's perfect for those who like a streamlined setup and don't demand too much from their editing tools.

BY JENNIFER FARWELL

Get A Handle On Audio & Video

Blaze Media Pro 7.0

Blaze Media Pro bills itself as an all-in-one audio and video converter, editor, recorder, and burner, so we were curious to put this program through its paces. We liked what we saw, but be warned that Blaze Media Pro is optimized for up-to-date systems.

Installation is quick and straightforward, but Blaze Media Pro requires the latest version of the Windows Runtime Environment. During installation, Blaze Media Pro will download the environment if you have an active Internet connection. Otherwise, the installation will terminate.

(4) (b) (l) (l) (b) (a)

+ - 2 8 4 7

Once you open the program, you'll see a basic interface with a list of options down on the right side. These include not only converting, editing, and burning audio and video, but also more advanced operations: editing audio

tags and decompiling video (separating the frames into individual photo files). More options (including converting video to Flash) appear under the More Audio Options and More Video Options drop-down menus on the right side of the interface, and under File.

Blaze Media Pro's interface is simple, but that doesn't make the program easy to use. There are no helpful wizards and other assistants, but at this price and level of functionality, we wouldn't expect them.

Nevertheless, the program offers an enormous amount of functionality for the

> price, and you can use it as a simple media player too. Mystik Media offers a 15-day trial, during which time you can see if Blaze Media Pro suits your needs. II



Use WinXP's Remote Assistance



ost of us have someone—often it's a friend or family member—to call upon for help when we're having a computer problem. To make getting that help quicker and more convenient, you can take advantage of Windows XP's Remote Assistance feature, which will allow the person helping you to see and/or control your system from a distance.

Remote Assistance is built into both WinXP Home and WinXP Professional and can be used when both the helper and the person needing assistance are running WinXP. For best results with Remote Assistance, each party should connect to the Internet with a broadband router that supports UPnP (Universal Plug and Play). This allows the Remote Assistance

Hel

Once your helper connects to your system, the chat window will let you communicate via text or voice, as well as disconnect the session.

connection to successfully get through the router's firewall and find its way to the right system behind it. Depending on the connection method usedmore on those methods in a moment—Remote Assistance may or may not work when only one party has a UPnP-enabled router, and if neither party has a UPnP router, Remote Assistance definitely won't work. Fortunately, most routers sold within the past several years support UPnP or can be made to do so through a firmware update, so check your

router's documentation or the vendor's support Web site for information on how to enable it.

To enable the Remote Assistance feature, click Start, rightclick My Computer, and select Properties. Choose the Remote tab and then make sure to select the Allow Remote Assistance Invitations To Be Sent From This Computer checkbox. Next, click the Advanced button and make sure to select the Allow This Computer To Be Controlled Remotely checkbox. Don't worry, because the person you're receiving assistance from will still have to request control from you before they'll be able to interact with your computer. (If you're absolutely certain you don't want to give anyone control of your system, you can clear the checkbox.) You can also decide how long you want your assistance invitations to remain open by clicking the Advanced button. The default setting is 30 days, but for security reasons, it's best to keep this time as short as is practical. You can reduce the amount of time an invitation will remain valid down to hours or even minutes.

Asking For Help

There are two main ways to request help via Remote Assistance. One is through Microsoft's Windows Messenger instant messaging service, and the other is through email. Using Messenger is preferable because it works as long as either party has a UPnP-enabled router, but this method requires both parties to be online and logged into Windows Messenger. (In order to use Windows Messenger, you must have a Windows Live ID, formerly known as a Passport account. You can sign up for a Live ID at account.live.com.)

To request help, click Start and Help And Support. Then, click Invite A Friend To Connect To Your Computer With Remote Assistance and then the Invite Someone To Help You link. If you want assistance via Windows Messenger, sign in to the service (if you haven't already), highlight the person you want to contact, and then click Invite This Person. (NOTE: Another way to ask for help via Windows Messenger is directly through the application—just right-click a contact from within Windows Messenger and select Ask For Remote Assistance.)

If the person you want help from isn't currently online or doesn't use Windows Messenger, you can request assistance via email instead. Since an email exchange doesn't have to take place in real time, you can issue the invitation in advance for the recipient to pick up and respond to later (provided, of course, it's done before the invitation expires). On the other hand, the person requesting assistance must have an email application like Microsoft Outlook or Outlook Express installed and properly configured on the system, and, in our tests, sending invitations via email was only successful when both parties had UPnP-enabled routers.

To get help via email, start the process as described in the Windows Messenger scenario above but choose the Or Use Email option and type the email address of the person you want help from. Carefully check what you type to make sure the address is correct, because if you mistype it and it turns out to be a valid address, your invitation will be delivered to the wrong person. After verifying the address, click Invite This Person.

Now you can specify the name you want the invitation to include (the default is the account name of the person logged in) and include a text message to go along with it. This is a good place to provide a detailed description of your problem so that your helper has some background information before responding. Now click Continue to set the amount of time before the invitation will expire. The default for email invitations is only one hour, which you

may want to extend if you think it will take longer for your helper to receive and respond to the invitation. (Don't leave the invitation valid for too long, however, because as an email, once you send it, it's out of your control.)

Last but not least, you must enter and confirm a password that your helper will need to successfully respond to your invitation. The password can be anything you want, though you should avoid your Windows system password or any password you use for anything else. For security reasons, the password you specify is not in-

cluded as part of the invitation. Instead, you must provide it to your helper through some other means—for example, you can do it over the phone or send it within a separate email. After you've set the expiration time and password, click Send Invitation. You may see a window telling you that a program is trying to send a message on your behalf and asking if you want to allow it. Once you click Send, the invitation will be on its way.

If your only access to email happens to be through a Web-based service such as Google Gmail or Microsoft Hotmail, sending assistance invitations directly through email as outlined above won't work. (It may also fail to work properly if your installed mail program is something other than Outlook or Outlook Express, such as Mozilla Thunderbird.) In this case, you have the option to save your invitation as a file, which you can then send to someone through the email service or application of your choice.

To save your invitation as a file, again start with the Invite Someone To Help You link but select the Save Invitation As A File (Advanced) option. When you click that link, you'll be asked to enter an expiration period and a password just like with the email option, and when finished, you'll be able to save the file. You can send this invitation file to someone as an email attachment or through any other file delivery method, for that matter (say, an IM [instant message] transfer).

Making The Connection

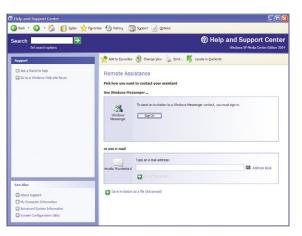
Once your invitation has been received, your helper can respond to it by clicking Accept (if it came through Windows Messenger) or opening the invitation file you provided. After a few moments, a dialog box will appear on your screen asking if you want to allow the person to connect to your computer. The entire connection process can

> take up to a minute or so; you'll know the connection has been established when your Desktop wallpaper disappears (this improves performance) and a chat window opens on your system that you can use to communicate with your helper via text or voice.

> Initially, the Remote Assistance connection is in View Only mode, which means your helper can see your system but can't control it. He or she can request control of your system by clicking a Take Control button, which will again prompt you to confirm whether you want to allow it.

If you say yes, your helper will then have control of your mouse cursor and will be able to navigate through your system—while you watch—in order to (hopefully) locate and fix your problem. You can cut off remote control of your system at any time by pressing the ESC key, which will immediately return the connection to View Only mode. To end the Remote Assistance connection, click the Disconnect button. (When you end the connection, your system may appear to freeze briefly; just be patient and you should regain control within a minute or two.)

So there you have it. While Remote Assistance won't be practical for all your computer woes (for example, an inability to connect to the Internet), it will be useful more often than not. Best of all, it's much easier than trying to muddle through a problem over the phone and a lot quicker than waiting for someone to make a house call. II



You can request assistance through Windows Messenger, an installed email application, or through a file you attach to Web-based email.

BY JOE MORAN

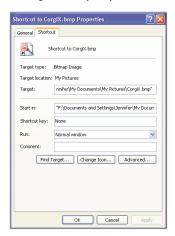
Short & Sweet

Use Shortcuts To Access Windows Features More Quickly

e grow up surrounded by shortcuts. In school, we take the shortcut home. When we learn to cook, we explore shortcuts that make food preparation easier and more enjoyable. And in the computer world, we learn there are shortcuts, as well.



Use a shortcut to open a folder's Properties window to access sharing controls quickly.



Create custom keyboard shortcuts from the Properties window of the item's icon-based shortcut.

Many of these are keyboard shortcuts, which launch an operation if the user presses a combination of keys. The most widely used shortcuts are for common operations such as Copy (CTRL-C) and Paste (CTRL-V), but both Windows XP and Vista feature many, many more. Windows also supports icon-based shortcuts, which afford access to any system item Windows recognizes as an "object." Many of the icons on your Desktop are probably shortcuts, with the actual programs or files residing elsewhere on your system. (You can identify shortcuts by the little, curved arrow at the bottom left of the icon.)

Keyboard shortcuts take time to memorize, but once you know them, they substantially increase your working efficiency. Icon-based shortcuts just sit there waiting for you to double-click or drag something to them-no human memory required.

In this article, we'll de-

tail favorite keyboard shortcuts common to both WinXP and Vista. These will work in most Microsoft programs designed for Windows, and many will work in third-party Windowscompatible programs, as well. We'll also tell you how to

create your own shortcuts—both keyboard- and icon-based. For Vista-only shortcuts, see "New Arrivals." Subscribers can visit SmartComputing.com to see the bonus chart that accompanies this article online: "General Admission," a chart of basic WinXP/Vista keyboard shortcuts.

Keyboard Magic

WinXP and Vista have over 100 ready-made keyboard shortcuts, and the programs they run add even more. Most WinXP shortcuts work in Vista, too. In the list that follows, "item" means any recognized object, such as a program, printer, file, folder, or even another shortcut. Inside some programs, it can also apply to a block of text, a listing, and other elements. Always press and hold the first key (or in a three-key sequence, the first two keys) while you press the third key.

Delete an item permanently without sending it to the Recycle Bin. Clicking an item and pressing DELETE sends it to the Recycle Bin. To bypass the bin and delete the item permanently (no retrieval without dedicated software), click the item and press SHIFT-DELETE.

Drag and copy an item. Click the item to select it and then hold down the CTRL key while you drag it to a new location. The original stays in place.

Select multiple items. When you select items to copy, delete, or move, you can select an entire contiguous row or group of them by clicking one, pressing and holding the SHIFT key, and then clicking another one at the opposite end of the row or group. However, if you want to select individual, nonadjacent elements within a row or group, press and hold the CTRL key as you select the items.

View Properties. The Properties menu provides information (such as file size) about an item and, depending on the file type, may let you customize it. For user-created files such as documents or images, Properties lets you add searchable notes including category, author, and keywords. For folders, Properties lets you access sharing restrictions. For icon-based shortcuts, Properties lets you change the icon or decide if the item will open in a window or minimized. To view properties for an item, click it and press ALT-ENTER.

Display a menu. In most Windows programs, there is an underscore beneath one letter of every menu and option. If you do not see an underscore, pressing ALT will reveal any shortcut letters. You can open a menu by pressing ALT-LETTER, where LETTER is the letter underlined. For

example, in Word, press ALT-F to open the File menu. In Firefox, press ALT-B to open the Bookmarks menu. Once you are there, use the Right and Left arrow keys to move to other menus or the Up and Down arrows to scroll through the menu. (Note that this also works to select options in Windows dialog boxes when underscores are present.) Newer programs may indicate the shortcut letter differently. Office

2007, for instance, displays the letters in small squares below the files with which they are associated.

Execute a command. Once you open a menu, pressing the underlined letter of an option executes that command. A prime example in Word is the Print command, which you can initiate by pressing P with the File menu open. Using this shortcut with the preceding one, you can open menus and execute commands with just the keyboard.

Open Task Manager. This utility, which lets you view (and terminate if needed) open programs and processes, examine memory usage, and reboot the computer if necessary, can be useful when a program has frozen or is

causing your system to be sluggish. Press CTRL-ALT-DELETE to call it up. (In Vista push CTRL-SHIFT-ESC.)

Keep It Short

You can create personalized shortcuts to use within WinXP and Vista, letting you open folders or files or execute commands with a few keystrokes or clicks. You can also create keyboard shortcuts for operations in most Windows-compatible programs. We don't have room to discuss other programs here; look for this feature on an Options or Preferences menu or search the Help utility for

Keyboard Shortcut.

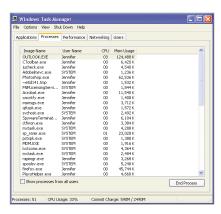
Create an icon-based shortcut. Locate the item in Windows Explorer, My Computer, the All Programs menu, or the Desktop; right-click it; and select Create Shortcut. Windows will place the shortcut in the same location as the original. Click and drag the shortcut to move it elsewhere.

Shortcuts are a great way to put frequently used items on the Desktop—and at your fingertips. Create a shortcut to a printer and print to it by dragging and dropping files to the shortcut. Create a shortcut to a file—a document or favorite video,

for example—and Windows will open the program and the file with a double-click. Note that a shortcut is a link to the original, so any changes you make to a file shortcut (or the files inside a folder shortcut) are being made to the original. Also, some items and most commands inside programs do not support icon-based shortcuts.

Create a keyboard shortcut. You can only create keyboard

shortcuts from icon-based shortcuts, not original objects. With a shortcut, you can press the key sequence to open the item just as if you double-clicked it. To begin, click an icon-based shortcut and press ALT-ENTER or right-click the shortcut and click Properties. Click in the Shortcut Key text box under the Shortcut tab. Press any character to create a CTRL-ALT-LETTER shortcut. You can also press CTRL-SHIFT-LETTER or ALT-SHIFT-LETTER to use those keys in your combination. If a new keyboard shortcut does not work, it conflicts with a pre-existing shortcut, and you'll need to change it.



CTRL-ALT-DELETE opens Task Manager (in WinXP), from which you can examine your system and its running programs and processes.

The Short Of It

For more WinXP shortcuts, visit tinyurl.com/yx47lv, where you'll find an exhaustive, but not detailed, list. This list also includes shortcuts that only work with the Windows logo key if your keyboard has one. (We have two favorite Windows logo button shortcuts. Press the button along with L to lock the workstation down. Press the button along with D to minimize all other windows and display only your Desktop. Press the combination again to return to where you were.)

BY JENNIFER FARWELL

New Arrivals

Vista comes with many of WinXP's old shortcuts built-in. Most of the new ones relate to features or utilities new with Vista; here are a few of our favorites. For more shortcuts, visit windowshelp.microsoft.com and search with the keywords "Vista shortcuts."

Action	Key/Key Combination	
Open Sidebar Gadgets list	Start-Spacebar-ENTER*	
Cycle through Desktop Sidebar gadgets	Start-G	
Display login/logoff options	CTRL-ALT-DELETE	
Control Volume (Media Center)	F8 (mute); F9 (down); F10 (up)	
Play Audio File (Media Center)	CTRL-SHIFT-P	
Open new tab (Internet Explorer)	CTRL-T**	
*Start is the Windows logo key **Also works in IE7 running on WinXP		

Is Antivirus Getting Smarter?

Nonsignature Anti-malware Applications

istorically, most antivirus apps have relied on signatures as the primary means of identifying the existence of a threat to PC security. These threats include viruses, spyware, Trojans, keystroke loggers, worms, or some other category of malware. Let's examine this signaturebased approach, as well as the emerging alternatives that include nonsignaturebased applications. We'll also take a look at how seriously these nonsignature-based anti-malware applications should be considered as part of a comprehensive PC protection arsenal.

Signature-Based Approach

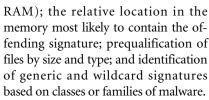
A signature is a binary pattern that, similar to a digital fingerprint, identifies a specific malware threat. Antimalware applications are designed to scan a computer's memory (typically scanning executables, processes, the Registry, and files) in order to compare that memory to a database of signatures maintained and updated regularly by the anti-malware application. When any portion of the memory matches a signature from the database, the application then deals with the identified threat by notifying the user requesting permission to quarantine or eradicate that portion of memory identified as containing the signature.

One reason signature-based approaches have been so popular is that antivirus researchers from IBM, Symantec, McAfee, Panda Security, Sophos, and other industry leaders typically share their virus discoveries and lists of identified signatures, regularly (even daily) releasing updates as new viruses are discovered. Thus, most antivirus applications have been fairly

similar in terms of how they work and which viruses they identify. The war between new viruses' makers and antivirus researchers and consumers has been characterized by how quickly the new viruses can be identified and the newly identified signatures can be promulgated for inclusion in the various antivirus applications.

The signature-based approach also offers the obvious advantage of specificity. The information exchanged about any given virus or malware (maintained in the database) includes the means to remove it from a system by reversing the specific procedures it used to implant itself in the first place.

These advantages of the signaturebased approach have enabled it to work moderately well. But as the number of identified threats increases dramatically as more crackers produce more malware more quickly, scans take longer and longer and begin to become a serious nuisance interfering with productivity and even casual computing. To some degree, this weakness of the signature-based approach has been mitigated by implementing more sophisticated scanning algorithms and improvements to the database to help reduce scan times. These enhancements, which consist of heuristic techniques, include consideration of the type of memory being scanned (such as system files vs. boot record vs. data files vs. scripts or macros vs. processes in



What's even more problematic about the signature-based approach, however, is that it has a built-in security hole: The possibility that a zeroday threat (a threat for which there is not yet an identifying signature in the database) may bypass the defenses of anti-malware software. Thus, some researchers have begun to develop approaches that either augment or replace the signature-based approach.

Behavioral Approach

One alternative to signatures is to identify as many of the potentially dangerous behaviors and sequences as possible and then protect users against any software that might exhibit those recognized malicious behaviors. For example, antivirus software might intervene anytime a program or process attempts to tamper with system files, reformat a hard drive, or hijack a browser. This so-called behavioral approach has the significant advantage that only the dangerous behaviors would need to be catalogued and tracked-which are numbers far smaller than the number of identified viruses. Additionally, because it relies



on behavioral analysis rather than identification of specific threats, it is certain to be significantly more effective in thwarting zero-day threats.

However, the behavioral approach has several downsides when used independent of a signature-based method. First, in the absence of information about the offending malware, the antimalware application is usually unable to completely remove or quarantine the threat on its own, especially if the malware has creatively imbedded itself into system files. Second, in the absence of information about known threats, it can often misidentify legitimate applications as threats. Therefore, this approach is typically only effective if used in association with signaturebased anti-malware software. Many of the vendors who tout the benefits of this additional layer of protection, including Panda Security (www.panda security.com) and its TruPrevent technology, still recommend the use of signature-based anti-malware software.

One variation on this approach that gets closer to eliminating the need for signature tracking is to test any untrusted code with a trial run in a safe "sandbox," or virtual computer environment. Thus, the behavior of any suspect code can be identified and pre-empted in real time within the confines of a protected environment before it causes harm to the real system. BitDefender (www.bitde fender.com) uses this approach with its B-HAVE (Behavioral Heuristic Analyzer in Virtual Environments) technology, but only to augment its basic signature-based anti-malware application. Although F-Secure (www .f-secure.com) claims even greater sophistication with its DeepGuard technology, it nonetheless considers DeepGuard to be the last line of protection, employed in addition to the signature-based approach.

Alternative Approaches

Some manufacturers of anti-malware software have adopted creative new refinements to the behavioral approach, even claiming that their technology eliminates the need for (and the limitations of) a signature-based approach. However, many of these hyped-up measures are quickly discredited as ineffective or burdensome. Anti-Executable from Faronics (\$27.30; www .faronics.com), for example, takes a brute-force approach and simply prevents anything from running on your computer that wasn't there when you first installed Anti-Executable. Obviously, there's no need for signatures if you treat everything new as malware and everything old as safe, but that leaves you unable to run or install anything new. Dynamic Security Agent from Privacyware (free; www.privacy ware.com) takes another approach—it analyzes your "normal" system and usage behaviors and then attempts to protect you by issuing warnings when your system's behavior falls outside of what it considers to be normal. The problem with this approach is that it requires the user to intervene regularly.

GreenBorder developed some promising technology for safe Internet usage based on the virtual isolation of all Web browser activity. However, the company was bought by Google and, as of press time, was no longer offering applications for download or purchase.

There is at least one other promising technology and company worth watching. Sana Security (www.sana security.com) employs a sophisticated defense system named Active Malware Defense Technology based on combinations of behaviors that exist in the suspected threat. Sana claims that all malware exhibits certain behaviors and abilities not usually seen in legitimate software, such as surviving system reboots while continuing to operate, hiding from the end user or security tools to avoid detection, and exhibiting malicious intent and capability during execution. Sana's software uses those particular behavior criteria instead of a database of known threats and their signatures to proactively identify malware.

Creative Possibilities

Although there is no current reason to completely abandon signaturebased anti-malware applications, you'll certainly benefit by being aware of the possibility that some creative new vendor will soon develop an approach that is not only more effective in eliminating zeroday threats but that also more efficiently uses system resources. II

BY DAVE WHITTLE

Comparison Of Anti-malware Approaches

Signature Database Approach

Pros

Cons

Pros

Behavior Of Executables Approach Cons

High specificity means; near-perfect identification: and fast, clean removal

As more threats are identified and tracked, scans take longer and longer

Nonproprietary; enables information sharing between antimalware vendors Requires time to identify new threats and create a signature for the database, thus enabling zero-day threats

Dramatic reductions in performance impacts are possible; less interference with productivity

Immediate, proactive recognition of threats; pre-empts zero-day threats

Complete threat removal is likely to require increased manual intervention

Generally involves proprietary, vendorspecific technology, so it's likely that there will be less sharing among antimalware vendors

Voice Over Instant Messaging

Prime-Time Player Or Just For Fun?

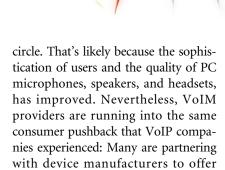
n the past year or so, as the fortunes of VoIP (Voice over Internet Protocol) companies such as Vonage have risen and fallen, a new breed of Internet-based phone services has been sweeping the marketplace. Called VoIM (Voice over Instant Messaging), these services let you send and receive phone calls from your PC. Unlike VoIP providers, they don't require you to purchase any special hardware beyond the equipment broadband (high-speed) modem, speakers, and microphone—that many new PCs already have.

With leading provider Skype having millions of users and more than a halfdozen smaller VoIM services pursuing business, we decided it was time for a Smart evaluation. How does VoIM differ from VoIP, and what does it offer? Are there pitfalls you should avoid, and how? Is it something you can consider as your full-time phone solution, or is it another gizmo in the Internet toolbox? For the answers to these questions and more, read on.

device that runs between the Internet connection and the phone, freeing the user from his PC. This device handles the digitization and compression/decompression required to turn analog (waveform) speech into digital voice (data) packets and back again.

VoIM services, by contrast, employ PC-based messaging client software, with the analog-to-digital transformation taking place through the software rather than hardware. (VoIP boxes run software at a basic level, but they do not require much user intervention.) Nevertheless, the underlying process is the same as for VoIP, with the digital voice packets being routed over the Internet and delivered to a PC or other Internet-connected device on the other end. Ironically, VoIP calls originally went to and from a user's PC, just like VoIM calls do. Many prospects were reluctant to send and receive calls from their computers, so VoIP providers abandoned the PC in favor of a userfriendly, hardware-based solution.

With a return to the PC by VoIM



Now we know that VoIM providers are really VoIP providers but with software that is more heavily integrated into the user experience. Let's examine what this technology offers and how VoIM improves over basic VoIP.

A Quick History Lesson

hardware-based solutions.

When VoIP debuted, call quality was heinous for several reasons. First, PC speakers and microphones weren't up to the task. Second, most users still had dial-up connections. Third, the Internet's packet-based technology is great for data—like computer files—already segmented into 1s and 0s. Because it does not require sequential delivery of packets, it's not so great for streaming communications like voice.

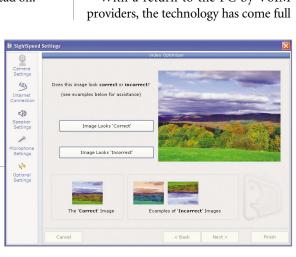
Initially, problems with latency (delay in packet arrival), jitter (unpredictable variations in the length of packet delay), and packet loss caused by network congestion reduced the quality of VoIP transmissions. Today, improvements in hardware, software, and both transmission and compression protocols have largely eliminated these issues.

VoIP vs. VoIM

As we noted above, the key difference between VoIP services and VoIM services is that VoIP connections require a hardware

During setup, SightSpeed helps you optimize your video for best color and image quality.







There are still concerns with VoIP and VoIM that we will discuss later. However, call quality has improved so much—especially when you are working with a top-notch headset and microphone—that some experts say it can be better than standard phone calls. According to a February 2007 report authored by John Longo, senior analyst for independent telecommunications market research firm Heavy Reading, VoIM uses better quality codecs (compression/decompression technologies), resulting in a better-sounding call.

Nearly all voice calls, even those that travel over the PSTN (public switched telephone network), are digital for part of their journey. Consequently, all voice transmissions must be compressed and decompressed. VoIM and VoIP codecs generally work with a wider range of the spectrum in which the human voice travels, enabling them to capture more of the highs and lows of speech. Codec-developers base their marketing on this assertion, and leading IP codec companies such as Global IP Solutions (www.gipscorp .com) are wooing lots of customers with their superior, patented solutions.

Instant Opportunities

Given that both VoIP and VoIM can have excellent call quality (assuming network issues mentioned earlier are tackled), what gives VoIM an edge? VoIM pairs telephony with the advantages users have come to enjoy from their PCs. In tandem with calls, most of these providers support instant messaging features, such as text chat; file transfer; and even gaming, whiteboarding (shared drawing and mark-up features), and video. VoIM client software can detect the availability of people or devices by determining whether they are logged into the network.

Like their VoIP and PSTN competitors, some VoIM providers also offer call forwarding, call conferencing, redial, and

voicemail, and they generally integrate your address book with the calling feature. And of course, VoIM is locationindependent—if you have access to an Internet-connected PC, you can make calls. (We do not recommend you call from a public computer for security reasons.)

Another benefit of VoIM is cost. Virtually all VoIM providers allow free PC-to-PC calls within their network (and in rare instances to PCs with other VoIM clients), in much the same way that mobile providers do. When customers wish to reach subscribers of traditional telephone carriers, some VoIM providers can move calls onto the PSTN and charge their subscriber a small fee. Some VoIM companies also provide their users with an "incoming line" phone number so they can receive calls from PSTN users.

The cost for these services varies. Yahoo! Messenger with Voice (voice .yahoo.com), for example, offers Phone Out for a penny a minute for all calls (local and long distance) in the United

States. Phone In service is \$2.99 a month (less if you purchase a year of service). Leading VoIM provider Skype (www.skype.com) is a bit more expensive—SkypeOut calls within the United States are 2 cents per minute. SkypeIn costs \$6 a month (less with a 12-month contract or Skype Pro service). For more on provider options, see "VoIM: Who's Who."

Caveat Emptor

Before you sign up, be aware that there are drawbacks. First, and perhaps most important, VoIM services do not offer 911 locator services. The nature of IP calling makes it difficult for the provider to know where you are. Some VoIM providers offer no 911 connection. Others can connect you, but you may not be routed to the closest emer-

gency call center.

Even if you can be routed appropriately, if you cannot tell the operator where you are, emergency responders will not be able to find you. Some VoIP and VoIM providers are circumventing the first problem by requiring their users to register an address when they sign up for a phone number, enabling the carrier to route the 911 call correctly. However, most have no way at this time to overcome the second, potentially deadly, limitation.

A second drawback is incompatibility with other services that require a PSTN

line. For example, VoIM/VoIP codecs do not support fax transmission. Many satellite television receivers, TiVos and other set-top boxes, and alarm systems work only with PSTN lines.



Leading VoIM provider Skype offers video calling, conferencing, and more but lacks some of the entertainment bonanzas of other VolM offerings.

A third problem (less common as technologies develop) is security. Some VoIM solutions do not support encryption, although leading providers such as Skype handle encryption and decryption tasks at the software level. (For VoIM calls made over a PSTN, security is much less of an issue.)

A final consideration is reliability. What happens if your power goes out, your broadband connection goes down, or you cannot boot your computer? With VoIM, there's no way to plug in an old phone and get back to business. What if your provider becomes ensuared in patent issues, as has happened with Vonage? While VoIM providers generally claim all the technology they use is either theirs, legally licensed, or open source (free for anyone to use), there is little means for a customer to confirm that.

Furthermore, if your VoIM software becomes corrupted or is incompatible at some level with your system, you won't be able to send or receive calls. Customer service with some of these portals is less than enthusiastic. For example, when we experienced problems with Yahoo! Messenger with Voice that



Gizmo is a little-known powerhouse that can connect to a variety of VoIM networks.

we could not identify or overcome, even when we uninstalled and reinstalled it, our attempts to contact Yahoo! through conventional methods were fruitless. Even when we asked to cancel our account due to an inability to connect, we received nothing more than an email saying, "Goodbye."

Not Ready For Prime Time

With these drawbacks in mind, we recommend VoIM as a great way to enjoy inexpensive calling (especially long distance) and to combine interactive PC-to-PC features with audio and video calls. However, we do not recommend anyone replace his PSTN service

at this time. If you have a mobile phone with good service inside your home and E911 (Enhanced 911) locator service, and you don't need a PSTN line for any other reason, you might be an exception to the rule.

If you're interested in VoIM, consider one of the hardwarebased solutions we mentioned earlier. Companies such as Netgear (www.netgear.com) and Siemens (www.siemens.com) make dual-

mode phones that support both PSTN and VoIM calls.

For chat, video, gaming, and other advanced options, you'll need to head back to the PC—for now. However, that may change. In a February 2007 Forrester Research report, Sally M. Cohen and Maribel D. Lopez predict that while VoIM isn't compelling enough to replace PSTN lines at this point, device manufacturers may "drive online community and further alter the way consumers think about voice by embedding [VoIM] in other devices and services like Xbox and personal media players."

BY JENNIFER FARWELL

VolM: Who's Who

Interested in VoIM but not sure where to start? Here are some pointers regarding our top picks. However, if you already use a chat client, it makes sense to explore what voice capabilities it offers (especially if you have a large buddy list).

Skype

(www.skype.com) It's the VoIM leader internationally and has gained traction in the United States. It offers one of the more costly PSTN-access plans, but it's secure and reliable. It has lots of phonestyle features, including video calling, but is short on entertainment frills.

(www.gizmoproject.com)

Our favorite VoIM client—this is the only cross-platform solution. It supports PC-to-PC calling to any Gizmo, Google Talk, Yahoo!, or Windows Live user. You can also call (from your PC) any active Gizmo network member on his mobile or PSTN line for free. Call someone outside the network, or have anyone call you, at very low rates.

Windows Live Messenger

voice recording, gaming (with

Sight Speed (www.sightspeed .com)

This is a top-rated solution for call clarity. It offers low-cost phone in and phone out (with an 800 number for \$1.00 per month), video email, and more.

There are numerous other options open to you, including Yahoo! Messenger with Voice, Google Talk (www.google.com/talk), and AOL Instant Messenger (www.aim.com). If you don't have a favorite, ask your family and friends what chat clients they use most or set sail with Gizmo and communicate with them all!

READERS' TIPS

COMPILED BY JOY MARTIN

Many of our readers come across fast, easy ways to solve a problem or accomplish a task. Well. we'd like to hear about it! If you have a great tip you'd like to share, please email us at readerstips@smart computing.com. If we print your tip, we'll send you a free **Smart Computing** T-shirt. You'll be the envy of all (well, some) of your friends.

Please include your first name, last name, and address so that we can give you credit if we print your tip. (And so that we can send your T-shirt to you, of course.) Please limit your tip to 200 words or fewer. Not all tips received will be printed, and tips may be edited for length and clarity.

Helpful Advice On Getting **Organized & Seeing Better**

A Download Folder

Keep Track Of Downloads

I simply hate saving downloads to the Desktop. It clutters everything, and usually file names aren't all that helpful, either. I created a folder named A Download Folder

on my C: drive. It purposely starts with the letter A, so it sorts near the top of the folder list when viewing the tree structure. Before I download a file, I create a subfolder with an appropriate category name and download (save) into that subfolder. After the download is completed, I browse to that subfolder and double-click the EXE for the install.

Some of the subfolders I've created in my A Download Folder folder include Drivers, Free Games, PDF Files, Zip Files, and Utility Programs.

Dallas T., Silver Spring, Md.

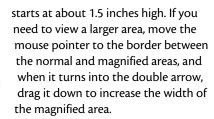
Help For The Visually Impaired

For the readers with sight problems, there may be some help by using the Magnifier built within Windows. Even now there are those that are unaware of the Magnifier included in the operating system.

> Click Start, Programs (or All Programs), Accessories, Accessibility, and then Magnifier. This will open a small window at the top of the

screen, which is a magnification of the area around the mouse pointer. By default, this area will be at a magnification of twice the normal size.

It also opens the Magnifier Settings window where some of the parameters of the magnifier may be adjusted. The level of magnification may be changed from one to nine times magnification. The width of the window at the top usually



As has been previously pointed out by Mr. Modem, there are third-party programs that perform similar functions. In fact, I had one for many years that turned the mouse pointer into a magnifying glass, but it only covered a small area around the pointer and did not have the versatility that the built-in program does.

> Bud R., Mesa, Ariz.

Protection For Laptop Screens

My last laptop had a problem with the screen being pushed into the keyboard when it was in my laptop bag. The keys wiggled and gouged the coating on the screen. In my case, it was the Spacebar and the home row finger bumps (on the F and J keys).

The manufacturer replaced the screen, but to prevent this from happening again, I bought some microfiber cloths that were bigger than the keyboard. I cut one to fit over the keys but not hang out the edges of the laptop—the cloth's edge might cause damage to the laptop. Every time I close the screen, I place the cloth over the keys. I have never had the problem happen again.

A side benefit is that I have a cloth suitable for cleaning my screen or glasses every time I need one.

Mark C., Garden City, Ga.

An Easy Switch—It's About Time

lthough Macs are supposed to be easy to use, I can tell A you that the real story is a little bit more complicated. Macs do seem to be more intuitive than Windows for "first-time computer users." However, if you're used to

Windows, you may find that you're a bit set

in your ways and that you try to do things the same way on a Mac that you would on a PC. However, there are subtle differences in the way that you interact with OS X vs. Windows.

Earlier this year, I was thrilled to see that someone finally addressed the unique needs of "switchers" by creating software that teaches a Windows user how to perform all of their familiar activities on a Mac. It's About Time Products offers a software package called It's About Time To Learn The Switch To Mac.

You Say Po-TAY-to; I Say Po-TAH-to

The interesting thing about switching from one OS (operating system) to another is that you can perform many of the same tasks, but sometimes the terminology is just a little bit different. The It's About Time software does a great job of explaining these differences. For example, in the lessons, the host Saied explains that on Windows, you refer to your software as Programs, whereas on a Mac, you call them Applications. So instead of finding programs in the All Programs section of the Start menu, on a Mac, you'll find all of your programs (er, I mean, applications) in the Applications folder. You also learn that OS X's Dock is the Mac equivalent to the Windows Taskbar.

The great thing, though, about It's About Time To Learn The Switch To Mac is its interface. A small window in the upper-left corner of the screen has a video where you can watch the host explain the concepts he's teaching. To the right of that video, you'll see a sheet of notepaper, where key

points are listed. In the left column, you'll see notes about how to perform an activity in Windows, and in the right column, you'll see notes about how to perform that same task on a Mac. Underneath the video window and the notepaper, you'll



see two windows: one that shows a Windows screen, and the other that shows a Mac screen. For each

> lesson, you see the cursor move on the screen, demonstrating first how to perform an activity in Windows and then how to do the same task on a Mac. This is a great approach, because it really lets you see the ways in which various procedures are similar

and the ways that they differ.

As the host guides you through each of these demonstrations, notes appear on the notepaper to summarize the steps involved in performing each task in Windows and in OS X.

The host walks through these lessons slowly enough that they are easy to follow, but not so slowly that you feel like he's talking down to you.

At the conclusion of each lesson, the software invites you to take a turn performing the task. You can do all of this in the sample Mac window right within It's About Time.

This software covers all of the basic lessons for a first-time Mac user, from adding applications to the Dock to setting up email to searching for specific files or folders. The software addresses many of the issues switchers often face. For example, in Windows, you can close a program by clicking the red X in the corner of a window. If you do the same on a Mac, however, you close only the window, not the program itself. It's About Time shows a new Mac user the proper way to quit a program on a Mac and how to tell, at a glance, which programs are still running.

Ready To Switch

If you are already somewhat comfortable in a Mac environment, this software isn't for you. It won't teach you advanced OS X tricks, but it will give you a great guide to the ways that OS X is both similar to and different from Windows.

Product Info:

It's About Time To Make The Switch To Mac \$29.95 (box copy); \$24.95 (download) It's About Time Products hi@itsabouttimeproducts.com www.itsabouttimeproducts.com

It's About Time To Make The Switch To Mac demonstrates the way that performing basic tasks differs between Windows and OS X.

WEB TIPS

Enhance Your Time Online

Web Tools Through IM

Problem: I use a lot of Web applications, but I feel like I'm spending a lot of time constantly going to different Web pages to access and update all of my information. Is there a Web page that helps me consolidate these tasks? **Solution:** The solution isn't so much a Web page as it is a custom instant messaging interface: IMified (imified .com). Add IMified to your buddy list and send this buddy a message, and you will automatically be signed up for this service, which allows you to add a number of widgets that your IM (instant messenger) can interface with. Add calendar events, to-do items, or even update your blog all through your IM window.

Translated Search

Problem: I'm doing a Google search, and I'm getting a lot of pages in a foreign language. I could use a Web translator, but this is proving tedious to do for every page just to find out if it's even relevant to my search.

Solution: Tucked away in Google's beta translation page (translate.google.com) is a handy feature called Google Translate. You enter your search in the box like you normally would and then you also select your language and the language you expect your searches to appear in. Looking for a Japanese toy robot? Have Google Translate display the Japanese page results in English. Don't feel blocked by foreign-language results ever again.

How Does Your Salary Compare?

Problem: I am thinking about getting a new job, but I am having a hard time finding competitive salary comparisons. Solution: Über job site Monster.com seems like a good place to start, but its salary wizard (monster .salary.com) only supplies free info for a base salary range—you have to pay for a personalized salary report. Why not try SalaryBase.com (www.salarybase.com)? The



IMified is another robo-buddy that aims to enhance your productivity by enhancing your IM.



How green is this Black Google?

you enter your current position, location, and salary, and then it compares these figures to info that other users have submitted. This means it's only as accurate as the user-supplied facts. Plus, it's not meant to show you what you could be making; it's only meant to compare your current salary to others.

Free Conference Call Number

Problem: I need to get a bunch of co-workers on a conference call, but our small business phone system only supports three-way calling. Solution: Whether you are preparing a corporate strategy session or planning a family reunion, if you need to have a conference call, try using a free call-in number from FreeConferenceCall.com (www .freeconferencecall.com). Only one person needs to sign up on the site to get a dedicated phone number, an access code, a subscriber PIN, and instructions on

using the service. Longdistance charges apply, of course, but otherwise this is about as free as it gets.

Black Google

Problem: I heard a rumor that my computer monitor would consume less energy if I used a search engine with a black background as opposed to Google's allwhite layout. True? **Solution:** The somewhat infamous "Black Google" is a site called Blackle (www .blackle.com). Based on a comment made on a greencomputing blog (ecoiron .blogspot.com), Blackle sprang up as an unofficial skin for the Google search engine. Turns out there's no real energy savings when using an LCD monitor and only a marginal savings with CRT (cathode-ray tube) screens. Blackle is still up and running with an aboutpage note saying that using this site is a reminder about the need to save energy. Maybe in this case, the message is stronger than the messenger.



Bedford Cheese Shop

www.bedfordcheeseshop.com

Cheese makes a great holiday gift not only because it appeals to just about everyone, but also because you may well get the chance to snack on it when you visit the recipients' houses (the holidays are times for sharing, after all). And who better to fill that cheese order than the "cheesemongers" of the Bedford Cheese Shop? This New York-based store ships its cheese nationally and has gift boxes that range from \$49 samplers to a \$225 cheese basket behemoth. For a gift that lasts well into next year, consider the Monthly Cheese Plate Subscription.

Dealnews

www.dealnews.com

Remember when Uncle Chuck joked about how he'd turned bargain hunting into a sport? It looks like he missed a business opportunity. Dealnews has a team of discount detectives that shine the spotlight on online coupons and sales for a variety of products, including clothing, household items, and even food. The site also features a new Holiday Gift Guide, which recommends deals on the most popular holiday gifts, including electronics. The site's Last-Minute Shopping Guide, which opens this December, helps shoppers find gifts that will arrive by Christmas.

DLTK's Crafts For Kids

www.dltk-kids.com

If you and your children enjoy seasonal crafts, DLTK's Crafts For Kids Web site is an online gold mine. Free crafts include paper angels and salt crystal snowflakes, as well as Christmas coloring pages and easy-to-make gifts. You'll also find instructions for making Santa's Magic Key, which is a must for houses that don't have fireplaces (how else is Santa supposed to get inside?). Don't forget to revisit this Web site after the holidays, as it has fun activities for most special events.

GourmetGiftBaskets.com

www.gourmetgiftbaskets.com

If you're planning to send a gift basket or two this holiday season, check out GourmetGiftBaskets.com's nearly overwhelming collection. At the time of this writing, The Christmas Gift Baskets section alone featured 13 gifts. At the low end of the price spectrum, you'll find a \$37.99 Christmas Gift Basket Stack that includes brownie cookies and—sorry, we can't remember the other treats, we're still thinking about those cookies. The \$124.99 Ultimate Christmas Gift Basket, on the other hand, appears to have every snack ever made. Watch out for portion sizes, though. The Ultimate basket's brownie bag weighs in at only 3 ounces; 4 ounces less than the bag in the Stack.

Northpole.com

www.northpole.com

These days, a Web site that offers ad-free content is a rare site indeed, so

we're glad to see that Northpole.com takes a strong stance against ads. The site features a Disco Dancing Santa that will have you and the kids laughing in no time, as well as Santa's Secret Village. Raymond the Reindeer acts as a tour guide while you explore the village's buildings and try out the activities and recipes. If you want to keep an eye on Santa's whereabouts as Christmas approaches, use Northpole .com's link to the NORAD (North American Aerospace Defense Command) Tracks Santa Web site. The tracker provides animated video of Santa's sleigh as it travels the globe.

SantaClausOnline

www.santaclausonline.com

So, what does Santa do when he's not delivering presents? He's offering his consulting services to shoppers, of course. This site, which trumpets the tagline "Christmas Simplified," lets you browse its Christmas gifts by category. If you're stumped, click the Gift Finder tab at the top of the page and try out Santa's Gift Finder Tool. Once you enter some basic details about your recipient and how much you're willing to spend, it displays an array of relevant products. The tool also changes its name to Santa's Amazing Gift Finder (apparently the successful search boosts its confidence).

SantaLetters4Kids.com

www.santaletters4kids.com

If little Joey or Sarah is impatiently waiting for Santa to make his yearly gift-giving trip, we have just the site for you. SantaLetters4Kids.com is a service that can mail (or email, if you prefer after all, there's no reason Santa can't be technologically hip) a cheery letter to your child. Choose from dozens of paper types and provide some basic details about your child's interests so that Santa can create a personalized letter. The Web site encourages U.S. residents to order Santa's letters by December 12—you'll pay for extra shipping if you make Santa scramble to get the letter out the door.

That's News To You

Finding the appropriate Usenet discussion group to match your interests can be a monumental task. So each month, we scour tens of thousands of newsgroups and highlight ones that delve into popular topics. If your ISP (Internet service provider) doesn't carry these groups, ask it to add the groups to its list. This month, we unwrap groups that will help you shop for the holidays.

misc.consumers.frugal-living

If you're looking for inexpensive presents, check with these experienced bargain shoppers. Members here propose and debate all kinds of money-saving tips year-round.

rec.food.veg.cooking

Don't forget to prepare special dishes for your vegetarian family member this Christmas. If you're worried about finding a tasty vegetarian recipe, check in with the members of this group. They're happy to offer recipe ideas.

rec.arts.books

You know that your nephew wants the latest Dean Koontz thriller for Christmas, but you have no idea what its title is. Before you head to the bookstore, post a message here. You'll have a response

in no time.

Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available for download. Each month, we feature highlights from our pickings. This month, we decorate your computer's Desktop.

IconArchive Christmas Icons

www.iconarchive.com

If you're tired of those drab, manila-folder icons on your computer's Desktop, it's time to spice up Windows' built-in icon collection with some cheery, holiday-themed replacements. Although the Web is awash with icon-sharing Web sites, we're particularly fond of IconArchive, which has thousands of fun (and free) icon images. Once you enter the Christmas Icons section, you can browse more than 300 images.

Downloading an icon is a snap. Create a folder in which you'd like to store icons. (We created an Icons folder on our computer's Desktop.) Next, browse IconArchive for an icon. When you find the one you'd like to use, click the Download As .ICO File link. Click Save when the File Download window appears and then save the file to your Icons folder.

To replace a folder's existing icon with this new icon, right-click the old icon and then click Properties. Click the Customize tab and then click the Change Icon button. Next, click the Browse button, navigate to your Icons folder (the one you created on your Desktop), and then select your new icon. Click Open and OK. Click the OK button again on the folder's Properties window.

At this point, the new icon will appear. (The folder's label, such as Shortcut To Documents, will appear under the new icon, just as it did with the previous icon.) To revert to the folder's original icon, follow the same steps to open the Change Icon folder but select the old folder icon from the list in this window instead of clicking the Browse button.

IconArchive separates icons by the operating systems they support.

You'll find highly detailed icons for Windows XP/ Vista and lowerresolution icons for older versions of Windows. The icons are free for personal use.



Celebrate the holidays with these cheery new icon images. iPod enthusiasts will get a kick out of the Fast Icon iPod Christmas collection.

Broadband Power Line

Networking Via Electrical Wiring

omputer networks have become such an integral part of many users' computing experiences, whether it's a home network over Ethernet cable or Wi-Fi system or Internet access via DSL (Digital Subscriber Line) or cable modem. Yet, for many users, these technologies are either unavailable, too expensive, or difficult to implement. A newer option, BPL (Broadband over Power Line), hopes to address these concerns for both home networking as well as Internet access.

Broadband Adoption

Despite the widespread popularity of DSL and cable modems for Internet access, broadband penetration in the United States is just above the halfway mark. According to an August 2007 Broadband Report from Website Optimization, approximately 53% of U.S. households had a broadband connection as of the first quarter this year.

Although there are many factors that influence broadband adoption rates, the two major ones are cost and availability. Many homes aren't suitable for DSL deployments, and many residential areas lack cable service. Providing Internet access through BPL (often referred to as Access BPL) is an exciting option for consumers who live in areas where utility companies are offering broadband access. Not only is BPL service potentially available for everyone,

but the added competition for Internet access also will help drive costs down.

How BPL Works

The basic premise behind BPL (also called PLC, or power line communications) networking is to use existing power lines to transmit network data. These power lines can be the ones inside your home (for in-house networking) or the medium voltage power lines that bring electricity to your home's subdivision. By using an RF (radio frequency) signal, BPL systems can leverage the existing electrical infrastructure for each home. BPL systems use frequencies that are unaffected by the power carried across the electrical line. Although BPL is relatively new to consumers, electric utilities have been using variants of this technology for decades to monitor and support their own power grids.

How Utilities Deliver Your Data

From a utility company's perspective, BPL requires some additions to enable Internet service. First, the utility

company has to purchase Internet access through a regional provider. The utility company then distributes this connection to each utility substation over robust fiber connections that can carry large amounts of data.

Next, the utility company links each substation's Internet connection to its medium voltage lines. These medium voltage lines are either

> above or below ground and typically carry electricity at 7,200 volts. Depending on the length of the medium voltage line, the utility company may have to install signal repeaters that boost the strength of the signal used for Internet data.

When the medium voltage line enters a housing subdivision, a transformer modifies the medium voltage line into 240-volt AC (alternating current) that is used by most houses and offices. BPL frequencies can't pass through transformers, so the utility company has to install a bridge that allows the BPL signal to bypass the transformer and pass over to the 240-volt line that enters a home or office.

One alternative strategy for BPL Internet access is the use of Wi-Fi systems for the last "100 feet." Instead of transmitting data from your local utility company all the way into your house, the company will install Wi-Fi modems at the end of the electrical systems, and users will connect to this access point through traditional Wi-Fi interfaces. This helps avoid the expense of installing the bridges needed to contend with transformers throughout medium voltage systems.

How Users Make The Connection

Once a utility company has configured a neighborhood or subdivision for BPL, users simply plug a small BPL modem into an electrical outlet and then connect their computer to the modem with an Ethernet cable. Their computer recognizes the modem, and

the users configure their computers to obtain a unique IP (Internet Protocol) address from the utility company. Data transmitted across the power line is encrypted to protect it from accidental or intentional eavesdropping. For networking, each computer will require a BPL modem. If the utility company is using Wi-Fi for each user endpoint instead of a BPL modem, the user will connect to the Wi-Fi hotspot created by the power utility. Once connected, users will be able to access the Internet in the same fashion as most other broadband users.

BPL advocates tout the advantages of BPL for bridging the "digital divide" that separates users with broadband access from users either unable to afford or obtain broadband access. Access BPL speeds typically peak at 3Mbps (megabits per second), though utility companies offer various packages to accommodate different user demands. BPL also has the potential to provide VoIP (Voice over IP) service.

In-House BPL

Although Access BPL has the potential to transform how we access the Internet in the future, In-House BPL already has the ability to transform networking within homes. Home networking consists primarily of Ethernet networks that require physical cables to be installed throughout your house or Wi-Fi networks that use radio signals to connect your home's computers wirelessly. Neither solution is a perfect fit; Ethernet cables are difficult to install in existing houses and lack flexibility, and Wi-Fi systems suffer from slower performance and signal degradation.

In-House BPL systems require no additional wiring, offer high-speed networking at costs comparable to Wi-Fi systems, and give you the freedom to connect to your home network anywhere there's an electrical outlet. Simply plug a BPL modem into an outlet, attach it to your computer via an Ethernet cable, and you're connected.

When In-House BPL first appeared on the market, it was used largely for home automation systems and suffered from slow network speeds. This was fine when most users were limited to home networks functioning at 10Mbps, but today's home networks are often transmitting data at rates up to 1Gbps (gigabit per second). Although many of the In-House BPL systems still use slower data transmission rates, newer systems designed to work with high-definition video signals can transmit data at rates approaching 200Mbps. By comparison, the peak for Wi-Fi systems ranges from 54Mbps for 802.11g to over 200Mbps for 802.11n.



Netgear's HDX101 Powerline HD Ethernet Adapter (\$79.99; www.net gear.com) turns any electrical outlet into a 200Mbps (megabits per second) network connection.

Problems With BPL

Although BPL has the potential to provide affordable Internet access for many users, there are serious obstacles in place for widespread adoption. The major problem facing BPL is its potential for interfering with HF (high-frequency) and VHF (very high-frequency) radio signals. These frequencies are used by "ham" radio operators, shortwave radio receivers, and numerous government agencies.

The problem lies in the fundamental architecture of BPL for Internet access. BPL transmits data across unshielded electrical lines that can act as giant antennas, disrupting any system using the same frequency. According to Allen Pitts, public relations manager for the ARRL (Amateur Radio Relay League), what the amateur operators and many other radio user groups are so concerned about is the pollution of wide areas of the radio spectrum by interference from BPL. In-House BPL systems use "notching" technology that limits their ability to interfere with other radio systems, as well as be disrupted by external radio signals.

BPL service providers can attempt to mitigate BPL's impact on other systems, but tests performed by the ARRL have shown that the BPL service itself is vulnerable to interference by outside signals. Just as the electrical lines act as a transmitting antenna (that interferes with HF/VHF signals), it also receives external signals on these same frequencies that can disrupt data transmissions carried through the power lines.

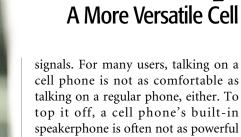
Buy, Sell, Or Hold?

BPL offers an interesting choice for consumers. In-House BPL is an innovative networking technology that solves many of the problems facing home networking at an affordable cost. Whether you're setting up a new network or expanding an existing one, In-House BPL merits serious consideration.

For Access BPL, the jury is still out. Technical concerns have delayed substantial deployments, and Access BPL may never amount to more than a niche method of accessing the Internet. If Access BPL is available in your area, it might be worthwhile to participate in any trials or initial deployments; just remember, they don't call it "the cutting edge" without good reason.

BY CHRIS JACKSON

Docked & Ready



tional phones.

Even with all of these inconveniences, many of us find that the benefits outweigh the drawbacks. After all, we like the savings associated with eliminating a landline bill, the ability to take our phone with us when we travel outside the home, and the cost benefit of being able to place long distance calls for little to no additional fee.

or clear as the speakerphones in tradi-

Thankfully, you don't have to choose between paying for a landline or dealing with the inconveniences of using only a cellular phone. You can enjoy the best features associated with both types of phones by using a cell phone docking station. These docking stations give you the versatility

of a landline with all of the benefits of a cell phone.



ore and more people are trading in their landline in favor of a cell phone. If you haven't jumped on the bandwagon, it may be because you have concerns about making that transition or giving up some of the conveniences of your landline. Conversely, if you have made the transition, you've probably noticed a few of the minor hassles associated with doing so.

If you have ever missed a call because you left your cell phone in the living room while you ran upstairs to grab a book from the office, you know all about one of these inconveniences. With a landline phone, you could have taken the call using a phone connected in the office. We take multiroom connectivity for granted with traditional telephone service. Once you give up a landline phone, however, you begin to notice the need to carry your phone 24/7.

Dead zones are another inconvenience that cell users must face. Too often, areas of our homes (often the basement) receive poor cell phone

How It Works

These docking stations connect to your cell phone through a Bluetooth or wired connection. They also connect directly to a standard telephone for a single-phone con-

nection or to your home's internal telephone wiring to provide connection throughout the home. These docking stations can connect to corded or cordless telephones, but be aware that some cordless telephones may experience interference depending on what frequency they are using and what other wireless signals

are nearby at the time. For example, if your cell phone is connecting to the docking station via Bluetooth, you have a Wi-Fi network at home, and you're using a 2.4GHz cordless phone, you may experience some signal conflicts. That's not to say you won't be able to use all three of these wireless technologies, but you may have to keep the devices far enough apart to avoid interference.

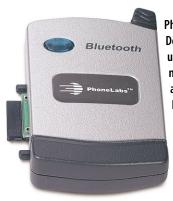
Docking stations that connect to your cell phone wirelessly through Bluetooth use the Bluetooth headset and/or hands-free profiles to control your phone from a remote source (in this case, a regular telephone). On many phones, these profiles share Caller ID and other information with connected units such as a headset or other telephone. If you're using a Bluetooth connection, you may want to connect your phone to a charger, since Bluetooth tends to draw extra power from your cell phone's battery.

A Few Options

There are a few docking stations available that give you the freedom of using a regular phone with your cell phone. PhoneLabs' Dock-N-Talk (\$159.99; www.phonelabs .com), Grace Digital Audio's XLink Cellular Bluetooth Gateway ITC-BT (\$159.99; www.xlinkgateway.com),



PhoneLabs' Dock-N-Talk lets you use a normal corded or cordless phone to make or receive calls on your cell phone.



PhoneLabs' Dock-N-Talk uses separate modules, such as this Bluetooth module, to enable phone connectivity.

and Grace Digital Audio's XLink Cellular Bluetooth Gateway ITC-BTTN (\$169.99) are three docking stations that will turn your regular corded and cordless telephones into a multiline phone system for your cell phone.

All three of these docking stations can use your home's existing telephone wiring. By connecting the base station to a telephone jack in your home, all of the other jacks throughout the home will support the signal. You then connect a phone to any jack, and it will interact with your cell phone to let you place and receive calls. By connecting the base station in this way, you can effectively have multiple phones throughout the house connected to your cell phone without the mess of additional wires.

PhoneLabs' Dock-N-Talk is unique in that it uses a separate module to connect your cell phone to the docking station using either a wired connection or Bluetooth connectivity. There are a couple of benefits to this modular method: First, a wired connection will allow you to charge your phone while it's docked. Second, if you choose to

use the Bluetooth module, you can upgrade as newer versions of Bluetooth become available. Instead of upgrading the entire unit, you only have to upgrade the Bluetooth module, which is more cost efficient. The Bluetooth module is available for \$79.99. Corded options for some phones start at \$19.99. A corded connection is not available for all types of phones.

For phones that are not supported by a Dock-N-Talk corded connection, Bluetooth is a good alternative.

The Dock-N-Talk supports up to five extension telephones through your home's internal wiring. The base Dock-N-Talk measures approximately 1.63 x 4.25 x 4.75 inches (HxWxD).

Grace Digital Audio's XLink Cellular Bluetooth Gateway ITC-BT and ITC-BTTN look alike and have the same features and functionality, but the ITC-BTTN has a second RJ11 jack. By adding this second jack, the ITC-BTTN has the capability to send and receive calls on a landline in addition to sending and receiving calls on up to three cell phones. Both units connect to your phone through Bluetooth, and both units can connect to up to three cell phones, which is perfect for families with multiple cell phones. These two units have three buttons at the top of the unit to display which phones are connected. When you want to disconnect or reconnect a mobile phone, all you have to do is push the button corresponding to that phone. The ITC-BT and ITC-BTTN also have a built-in USB port, which can be used to upgrade the unit with firmware upgrades as they become available.

The Results

In our tests, call quality was acceptable with all three units. Corded connections weren't available for the cell phones we used to test the Dock-N-Talk, so we used Bluetooth in all of our tests. We didn't notice much of a quality difference between using a





telephone connected directly to the docking station versus using a handset connected by means of the home's internal wiring system.

The setup process for the Intelli-Touch units was slightly easier than with the PhoneLabs unit, but both brands were easy enough to set up. The difference is that the PhoneLabs Dock-N-Talk required me to put my phone in discoverable mode. In all, setup took only a few minutes with all three docking stations.

Drawbacks

Cost is probably one of the most prohibiting factors to the growth and popularity of docking stations such as those mentioned previously. These docking stations provide a lot of convenience, but that convenience comes at a price. Thankfully, it's a one-time expense: The only monthly fee you'll have to pay is your cell phone bill.

Start Talking

Whether you're looking for a good way to eliminate dead zones in your

> home, desire the flexibility that comes from having multiple handsets connected to the same line, or just want a more comfortable handset to use while talking on your cell phone, a docking station can provide the added comfort and convenience you're looking for. II

> > BY JENNIFER JOHNSON

Poodle Skirts, **Bobby Socks & Therapy**

ach December, I present an eclectic potpourri of Web sites encountered during the past year while pursuing ■ my life's work as a highly trained, professional Web site profiler. Of the hundreds of Web sites reviewed, only a small portion receive the coveted "Mr. Modem Squeal Of Approval." It is from this elite group that I have culled the following sites that span the spectrum from the useful to the useless, and give them to you as my humble, holiday offering. Enjoy!

The study of philosophy is frequently left to inhabitants of the halls of academia and books with small print and a dearth of pictures. Ask Philosophers (www.askphiloso phers.org) provides a platform for the discussion of profound topics, thus bridging the gap between intellectuals and knuckledragging mouth-breathers like myself. The site's "Question of the Day" as I write this is, "What is nominalism?" I would have enjoyed participating in the discussion, but I was afraid that my head was going to explode.

Benefits CheckUp (tinyurl.com/38cpcq), provided by the National Council On Aging, helps millions locate programs that may pay for costs associated with prescription drugs, health care, utilities, and other essential items or services. Available programs are identified based on the information users provide in a simple questionnaire.

Flightstats Mobile (www.flightstats.com/go/Mobile) was created for Palm-type, handheld computers, but I use it as a no-frills, cut-to-the-chase, stop-with-the-hyphens flight information center. Here you can quickly discover flight status, departure and arrival times, flight alerts, airline and airport information, security wait times, and current airport delays. If you prefer the full-frills edition, visit www.flightstats.com.

Flash Experiments by Clown Staples (www.geocities.com /clownstaples) presents three Flash demonstrations that will boggle your mind and possibly make you queasy. "Morse" combines Morse Code and music; "Windows Noises" orchestrates the various Windows blips, beeps, and boops into a virtual symphony; and "Ball On String" is-well, just move your cursor to fling the ball around.

If you enjoyed wearing poodle skirts, bobby socks, and saddle shoes as much as I did in high school, I hope your years of therapy were as beneficial to you as mine were to me. Dive into the spirit of the fabulous '50s and '60s at oldforty fives.com. Scroll down and view a potpourri of flash movies that will rekindle memories of the songs we listened to, the cars we drove, and the pedal pushers we wore while ignoring

hoots, taunts, and jeers. (I don't care what anybody says, they were very stylish.)

GoogleGuide (tinyurl.com/apzkr) is a search enthusiast's dream come true, combining Google's many features in one suitable-for-laminating cheat sheet.

> Panoramic Photographs (tinyurl.com/y58c4q), courtesy of the Library of Congress, provides access to over 4,000 panoramic images of American landscapes, cityscapes, and portraits.

> > The Same Game (tinyurl.com/2ah2sr) challenge is to remove all the blocks by clicking groups displaying the same color. Sound easy? Beware: It's very humbling.

If you're seeking nontraditional accommodations while traveling, Unusual Hotels (www.unusualhotelsoftheworld.com) is the place to turn in. Perhaps you would like to stay inside an igloo, a lighthouse, or may I interest you in a nice tree? Categories include Art Galleries, Underground Caves, and Prisons. Four-Word Film Reviews (www.fwfr.com) is

an ever-expanding repository of excruciatingly succinct film reviews. For example, the blockbuster Titanic review is summed up as "Ice Chip Sinks Ship." Need I say more?

Speaking of icebergs—come on, work with me here—this month's virtual buffet is just the tip when it comes to interesting and unusual Web sites. The perfect stocking-stuffer every PC user will cherish is the holiday classic, Mr. Modem's Web CD-ROM (www.MrModem.com). In this treasure trove of tidings, I profile more than 1400 of my favorite Web sites. This \$19.95 CD is only \$12.95 (with free shipping) for Smart Computing readers who use the cryptic Promotional Code "SC" when ordering online. Faster than you can say, "Hot diggity download," it will be on its way to you or your giftees.

And finally, the Last Page of the Internet: If you're the last one out, kindly turn off the lights (tinyurl.com/guwc).

Next month, we'll start the New Year off by exploring a baker's dozen of my favorite free programs. Until then, from Mrs. Modem and our four furry feline cable-chewers, we wish you a happy, healthy, and high-tech holiday season.

BY MR. MODEM

Mr. Modem (Richard Sherman) is an author, syndicated columnist, radio host, and publisher. "Mr. Modem's Weekly Newsletter" provides personal responses to subscribers' computer and Internet questions, plus weekly computing tips, Web site recommendations, virus alerts, hoax warnings, and more. For additional information, visit www.MrModem.com.

Search All Articles

W ith all of the computing technology that exists today, finding the exact information you need can be difficult. At SmartComputing.com, we make finding information about a wide variety of computing technology quick and painless. Use our article search feature to browse past articles and find additional information from previous issues. Use the three-step detailed search to find an array of articles on topics ranging from the Internet and email to browsers, online services, and VoIP (Voice over Internet Protocol). You'll find all kinds of tutorials, troubleshooting tips, and other information to help keep your system running smoothly.

You can also browse current issues or search by keyword. These features allow you to not only search articles from Smart Computing, but Computer Power User, PC Today, and First Glimpse, as well. Find a helpful article? Click the Email This link above the article to send it to a friend. Even if they're not a registered user, they'll be able to view the article in its

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- 3. To enter a keyword search, scroll to the bottom of the page and customize your search to fit exact terms.

Find Answers OTE For Your Favorite TOPIC Search All Articles > Read Hardware Reviews Read Software Reviews Web-Only Articles Q&A Board Computing Chat Room Computing Dictionary & Encyclopedia Daily Tip Archive Web Log Archive User Groups Advertising About Us Extras

Subscribers, be sure to add these articles to My Personal

Library so you can keep all of your information in one convenient location for future reference.



Wireless communication may seem like a fairly new

phenomenon, but scientists have been experimenting with it for over a century. According to Smart Computing's Encyclopedia, Reginald Aubrey Fessenden was "the first person to broadcast voices without wires." He transmitted "his first radio program on Christmas Eve in 1906, playing 'O Holy Night' on his violin."

Just how festive is SmartComputing.com? We did a quick search to find terms related to holiday cheer. The word "Christmas" appeared about 365 times, "Santa" occurred 337 times, and the phrase "online shopping" made 287 appearances.

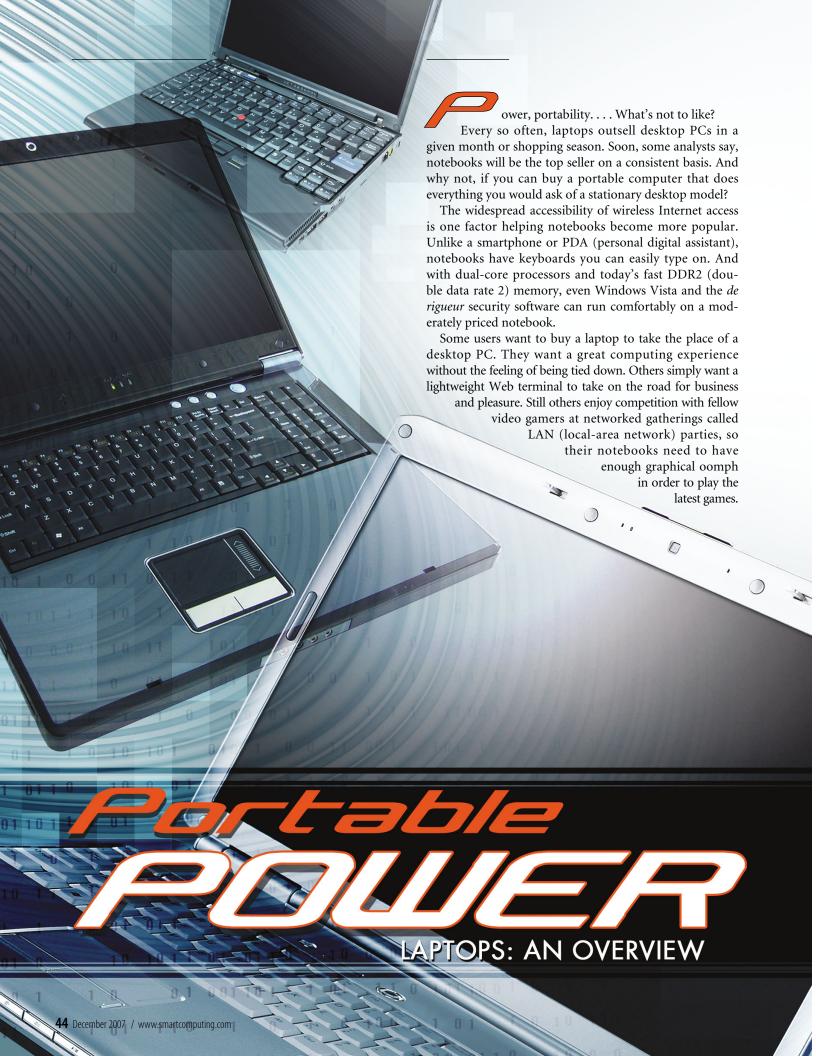
Fun Site Of The Day From Oct. 11, 2007

I Used To Believe

Childhood misconceptions are common and often hilarious. You may not have thought that clowns were born with pale skin and red noses or that ice cream caused polio, but we're guessing that you'll relate to some of these childhood beliefs. Enter your own anecdotes to give others a chuckle.

www.iusedtobelieve.com





The limiting factor to a laptop's carefree (meaning cable-free) existence is how long its battery will last. Broadly speaking, a typical notebook might run for a couple of hours before the user has to plug it into a wall outlet. Batteries have improved considerably since the olden days of "luggable" computing, and recent processors offer more power-saving features than ever before. Still, today's LCD widescreens, ever-vigilant security software, wireless network adapters, and power-hungry OSes (operating systems) such as Windows XP and Windows Vista have all conspired to erase any gains in battery life. In fact, a typical laptop today probably won't last as long between charges as an old Windows 95 notebook did when its battery was new.

For the majority of users who just want a reasonable amount of power at a great price, there are all sorts of entrylevel and midrange models. Basic and moderate laptops can provide you with a smart balance among speed, compactness, weight, features, and battery life. For example, you can find an entry-level Gateway notebook with a 1.7GHz dual-core processor and a 17inch widescreen for \$799 at press time. (Given the choice between a modest dual-core and a single-core processor with a higher GHz [gigahertz] speed rating, we'd take the dual-core nearly every time. It simply helps keep a PC from bogging down even when several programs are running simultaneously.)

On the other hand, say you'd rather have something slim, compact, light-

weight, and long on battery life. You want Web access and productivity apps, but you're willing to accept slow performance in order to go a long time between recharging sessions. Now you're talking about thin-andlight notebooks, or

slimline models, such as the HP Compaq 2510p Notebook PC (\$1,549 and up; www.hp.com). Other options include a UMPC (Ultra Mobile PC) and/or Tablet PC such as Samsung's Q1 series (\$869 and up online; product .samsung.com/q1microsite).

If you want a laptop with top speed or unusual features, be prepared to pay. Some high-end notebooks are nearly as powerful as the best enthusiast-level desktop PCs. The cream of the crop feature dual-core processors such as Intel's 2.93Ghz Core 2 Duo and even dual graphics card setups. Of course, there are some pretty considerable trade-offs with a super-highend laptop beyond its high price. Heat might be a major problem, battery life

will be short, and said battery will likely be large and heavy, as will the notebook itself. Generally speaking, the more powerful your "desktop replacement" or gaming notebook, the bulkier and heavier it will be.

Laptops have always suffered from a lack of upgradeability as compared

Boutique notebook vendors, such as **Falcon Northwest** (www.falcon-nw.com), offer unique styling options to make your portable more personal.

> with desktops. For years, users were limited to memory upgrades and whatever add-ons they could slip into a PC Card slot or connect to an external port. Today, however, some notebooks allow upgrades of the graphics card thanks to new types of expansion slots, such as MXM (Mobile PCI Express Module). Faster ExpressCard slots are phasing out PC Card/PCMCIA (Personal Computer Memory Card International Association) bays. You can

> All in all, it's a great time to look into buying a new notebook. Turn the page, and get ready to go mobile. II

> even buy a build-it-yourself laptop kit

from Asus and other manufacturers.

BY MARTY SEMS

THE LAP OF LUXURY

Buying A Laptop: A Primer

LAPTOPS FOR **POWER USERS**

> A Look At Today's Most Powerful Notebooks

LAPTOPS FOR THE **REST OF US**

> Choose A Laptop That Suits Your Lifestyle

LAPTOP GOTCHAS

Help Avoid Portable Pitfalls



hat makes buying a laptop different from buying any other computer? For one thing, laptops need to be portable. Size, shape, and weight matter much more than they do for desktop towers. Laptops are also mostly self-contained and thus not as easy to upgrade. Being "future-proof" and containing the right components straight out of the box are more important in this circumstance. Finally, you won't find some of the most popular and reliable laptop brands in big box retail stores; many models from leading manufacturers are only available online.

Keeping in mind those three special considerations—portability, upgradeability, and availability—we'll discuss the most important and common laptop options, by category. We'll also help you make sense of your processor choices, which differ in important ways from desktop options. In the end, you'll know exactly what you're looking for when shopping for a new laptop.

System Resources

Two core components—the CPU and RAM—exemplify the unique aspects of laptop computing. Faster and more powerful processors consume more energy. Higher energy consumption drains batteries and generates heat. Portability suffers without reasonable battery life and safe operating temperatures. Processor manufacturers offer models developed specifically for mobile computing (our "Mobile CPUs" sidebar describes them), but the technology invariably requires trade-offs between processing power and energy usage. The right balance for your system depends on how you prioritize system speed and power vs. portability. If you do most of your computing at a home or office and focus on multimedia work with only occasional forays into battery use, you can get a bigger laptop with a more powerful CPU. On the other hand, if you travel often and work mainly on office applications, Internet browsing, and email, you can sacrifice power in order to reduce the machine's size, weight, and energy demands.

System memory is one of the most important specifications for any system, and one of the most consistently undervalued. This holds especially true for laptops, in which upgrades can be much more limited when compared to upgrading memory in desktops. The rule of "more is always better" applies most dramatically here. Bargain models often try to save costs by shorting system memory, but there is simply no reason to consider buying any new computer (desktop or laptop) with less than 1GB of memory. It's worth making other trade-offs to get 2GB, but make 1GB the bare minimum you'll consider.

Power Management

The main purpose for most laptops' trade-off of processing power for energy conservation is to extend battery life. If you're buying a laptop, you must be seeking at least some level of portability. If none of your various computing locations will require separation from a power outlet, you can minimize the importance of battery life. But many users want to work untethered for extended periods and so should consider how long their batteries will allow such flexibility.

CPU speed affects battery life, as we discussed, but it's not the only factor. Display size and settings (and whether you're viewing Words docs or HD [high-definition] movies) matter a great deal. Wi-Fi and Bluetooth networking affect battery performance, as well. In addition, some manufacturers simply build or bundle better batteries and have more energy-efficient hardware components. Battery life specifications published in sales materials aren't always reliable, but you can only judge with the information you have. Use a two-hour battery life as a bare minimum expectation, and if you're a road warrior, look for a model that claims four hours or more. In addition, use Windows' settings to optimize your laptop for each scenario. In Windows XP, click Start, Control Panel, and Power Options to find these settings.

If you plan to take the laptop on long trips, consider battery size. Few additions weigh down a laptop bag more than a couple spare batteries. Also, think about how easy batteries are to replace in certain scenarios. For example, if you need to work during long flights, a fast and convenient way to swap batteries on the fly will make life a lot easier.

Storage

The basic rule for memory also holds true for hard drive capacity: More is better. Even today's smaller hard drives (60 to 80GB) appear to be large, but applications' appetites for storage increase right along with

A Laptop Checklist

Processor type and speed:
Screen size: 12-inch or less 13- to 14-inch 15-inch 17-inch or more
System memory: ☐ 1GB ☐ 2GB
Hard drive: 40GB or less 60GB 80GB 120GB or more Optical drive: DVD-ROM CD/DVD recorder
☐ Dual-layer DVD
Wireless standards: ☐ 802.11b ☐ 802.11g ☐ 802.11n ☐ Bluetooth
Comfortable keyboard? ☐ Yes ☐ No
Comfortable touchpad? ☐ Yes ☐ No

drive sizes. Unfortunately, dramatic improvements in hard drive capacity require size increases and more electricity. Even if you can't benefit from the latest explosion of massive drives, any laptop worth its salt should offer at least 80GB. If you're storing lots of music or video, try to get something over 120GB, keeping in mind the size, weight, and battery trade-offs you'll have to make.

External and portable storage options ease laptops' storage limitations somewhat. Consider adding an external hard drive to your purchase, which you can connect only when needed. Portable 80GB models are easy to carry around, while large, book-sized models can hold 200GB or more at your primary computing location. Both (and many other models) connect via the fast USB 2.0 standard built into most new laptops. Some connect via FireWire (also called IEEE 1394 or iLink), so make sure to match your external drives' connectors with your laptop's inputs.

Your final storage consideration should be your optical drives. Almost all notebooks include drives that can play DVDs, and drives that can record both CDs and DVDs are quickly becoming standard. If you need to record or back up large amounts of data regularly, look for a dual-layer DVD recorder. You'll pay a little extra for the high-end optical drive (up to \$50), but the extra storage capacity will be worth it. Be careful about committing to a computer with an external DVD or CD drive. If you ever travel with a computer, you won't want to haul around the external drive just to install a program or listen to music. Even users totally devoted to small and light models can find slot-loading optical drives that don't sacrifice size or weight.

Networking

Wireless networking is part of mobile computing's joy. Some models still don't integrate Wi-Fi, and there is probably no reason you should



Balancing battery power with processing power is one of your laptop's primary priorities. Use Windows' settings to optimize your laptop for each scenario.

consider them. Adding wireless later means purchasing, configuring, and keeping track of a separate device (usually a PC card or USB adapter) that you have to plug in and start up before connecting. Unless you're absolutely certain you'll never have any need or desire to get online anywhere but right next to your network router or phone, automatically cross anything without built-in wireless off your list. At a minimum, look for 802.11b support, though at this point it's reasonable to expect 802.11g compatibility, as well. The new 802.11n standard hasn't yet been finalized, so wireless components from different manufacturers don't always cooperate. Don't pay extra for 802.11n unless you know it will work with your wireless network equipment.

Bluetooth isn't used as pervasively as Wi-Fi is, but it can come in handy for wireless syncing if you have a Bluetooth-enabled phone, PDA (personal digital assistant), or headphones. While Bluetooth isn't standard equipment on most notebooks, adding Bluetooth is as simple as inserting a USB key. But if you have the opportunity to add built-in Bluetooth for a small fee (sometimes as little as \$5 or \$10), you'll save the hassle of carrying around yet another accessory.

Video & Audio

When you're in the market for a laptop, multimedia and graphics capabilities shouldn't be your top priorities, unless you plan to run taxing graphics and video-editing programs. Though some laptops are fully capable of showing widescreen HD video and connecting to surround-sound speaker systems, the genre's tendency toward smaller displays and underpowered processors should limit your expectations. If you want a real video and audio powerhouse, explore desktop Media Center PCs. That's not to say that you can't get good video and audio from a laptop, however.

If you plan to watch DVDs or highdefinition downloads, look for a widescreen display. Traditional laptop screens have 4:3 aspect ratios (four units wide to three units high). To get the most of widescreen video content. get a screen that has a 16:9 aspect ratio and is at least 15 inches. If you're attaching video devices to your laptop, pay attention to the inputs and outputs available with each model. FireWire is the best way to transfer video, though USB 2.0 works well, too.

There's not a lot to say about laptop audio, unless you want to connect to an external speaker system at home. Multichannel outputs may be important in that case; otherwise, a simple headphone jack will suffice for audio output. There is very little to differentiate the speakers built into most laptops. Intelligible sound with a decent volume and minimal distortion is about all you can hope for from most models' built-in speakers.

Shopping Tips

We briefly mentioned the availability of certain laptop brands in our introduction. You should certainly browse the models available at your favorite local computer store or big box retailer. But you should also check out the deals available direct from manufacturers, such as Dell (www.dell.com), Lenovo (www .lenovo.com), and Apple (www.ap ple.com). Each offers highly regarded and competitively priced laptop models that sometimes aren't available in stores. Reputable online stores such as Newegg (www.new egg.com) or Overstock (www.over stock.com) also have good deals, often on closeout models (new computers with middle- to upper-level specifications that have been recently replaced by new models). Pay attention to shipping and handling costs, which can quickly eat up any online savings if you're not careful, but you may find better bargains on better machines online than in the stores.

When planning your budget, expect to spend slightly more for a quality laptop than you'd spend for a comparable desktop model. Laptop components are smaller and more specialized and thus more expensive. By knowing exactly what you want and knowing where to find the best deals, you'll be sure to get the best value for your money and exactly the right laptop for your needs. II

BY GREGORY ANDERSON

Mobile CPUs

aptop processors are very dif-Leferent from their desktop cousins. Desktop CPUs are all about speed and throughput—how many instructions can you process and how quickly? Energy use and massive heatsinks are simply considerations in designing cases. Laptops, however, have to recognize a different set of priorities: Size matters, heat matters, and energy use matters most of all.

Recognizing those differences, chip manufacturers created CPUs specifically designed to squeeze out every drop of size savings and power efficiency. When shopping for a new laptop, you'll see these CPU brands all over the place. It helps to know what you're looking at.

Intel Celeron M: Intel's budget model; used primarily in "value" laptop models

Intel Core Duo: Intel's mobile dualcore CPU, processing two sets of instructions at once; this is a midlevel option for those who want a performance boost without paying cuttingedge prices

Intel Core 2 Duo: A dual-core processor that also supports 64-bit computing; only necessary for advanced operating systems and applications

AMD Sempron: AMD's budget model; seen mostly in bargain basement models where price trumps both size and power

AMD Turion 64 X2: A powerful, 64bit dual-core desktop-replacement chip that provides all the processing power you'll want at the cost of overall battery life

Adding an external hard drive, such as this Western Digital Passport (\$149.99 for 160GB; www.westerndigital.com), to your laptop purchase can greatly increase your day-to-day storage without hindering your system's portability.

No Library Card Needed

s a subscriber, you can find numerous articles to help A you with all of your computing questions at Smart-Computing.com. You'll find articles on how to install printers, how to troubleshoot your operating system, and much more. With more than 20,000 articles and 300 issues online, our publications cover almost every computing situation. Finding answers to questions and solving problems is easy to do at SmartComputing.com. We'll show you how to store all of this great information.

The My Personal Library feature gives you the opportunity to save articles, Daily Tips, Q&A posts, and Tech Support listings that interest you in one convenient location. You can customize folders and information so you can find your favorite articles quickly and easily. It doesn't take up any space on your PC, so store as much as you like. Content in My Personal Library stays active as long as your subscription is current. With such a powerful feature, you will never have to flip through back issues again!

Make the most of the My Personal Library feature with these tips:

- 1. Name your folders accurately. Try to avoid names like "Cool Stuff." Using more specific descriptions will help you find your information more quickly.
- 2 Add a note. This will help you remember why you stored the article in the first place.
- 3. Reorganize at any time. Click the Edit/Reorganize My Library link and you can delete articles or folders, add folders, and more, all with just a few keystrokes.





If you come across a computing term you don't understand, help is just a few clicks away. Visit SmartComputing.com and type the term in the Dictionary & Encyclopedia search field on the left side of the page. If it's not there, let us know, and we'll add the term. Other readers will likely be interested in a definition, as well.

Microsoft's new OS (operating system) is on many readers'

minds. Whether you have a specific question about Vista or simply want to find out what other subscribers think of it, visit the Smart Computing Q&A board today. A recent search revealed over 100 posts regarding the OS.



Scroll down to the SmartComputing.com Daily section on our home page for our Daily Tips. We offer advice on everything from customizing Vista to capturing the perfect shot with your digital camera.

From Smart Computing's Dictionary

spam

As a noun, unsolicited bulk email on the Internet or Usenet newsgroup postings sent to large numbers of newsgroups. As a verb, to send copies of the same types of messages. Advertisers often spam recipients intending to market products, Web sites, or commentary. The beneficiary often considers spam as junk mail, and it is considered poor form to send it. A person or email address that receives many unwanted messages is said to have been "spammed."

A LOOK AT TODAY'S MOST POWERFUL NOTEBOOKS

ower users push their computers to the limits. They attempt to edit video while emailing Uncle Joe, checking their investments, writing a blog entry, listening to their favorite music, and more. These users demand every ounce of power that a computer can provide. If you're such a user, then you know that the power that you demand often conflicts with the portability you desire. At least, this was true in the past.

Although laptops of the not-sodistant past often lagged behind desktop models in terms of power, today's models can provide just as much speed and computing functionality as desktops. In fact, some notebooks offer even greater power than an average desktop. Of course, you'll still pay more for the combination of power and mobility, but sometimes, it's worth it. Depending on your uses for a mobile computing powerhouse, there are different laptop features and models you may want to consider.

For The Power Multimedia User

Multimedia users require a large, high-resolution screen; the ability to read different types of media; and power to run taxing graphics and video-editing programs. If you're such a user, check out Toshiba's Qosmio G45-AV680 (\$2,999.99; www.toshiba direct.com). This notebook's 17-inch Ultimate TruBrite widescreen display

supports 1080p HD (high definition) with a resolution of 1,920 x 1,200. It also has a built-in HD tuner, HDMI (High-Definition Multimedia Interface) connector, and HD DVD-R/DVD SuperMulti drive to give you plenty of entertainment options. To complement the HD video capabilities, you can listen to music and movies on the Harman Kardon Bass Reflex speakers and subwoofer. For security, this notebook has a built-in fingerprint reader to help you secure your files while still providing easy access. Rounding out the list of available features, the Qosmio G45-AV680 offers Nvidia's new GeForce 8600M GT graphics card, an Intel Centrino Duo processor, dual 160GB hard drives, and 1GB of Intel Turbo Memory.

The Asus Lamborghini VX2S (\$2,699; usa.asus.com) has the sensational looks of a Lamborghini with all of the power you'd expect from a notebook with such a name. This laptop comes in the signature colors of

Toshiba's Oosmio G45-AV680 provides the ultimate power for multimedia users who like to travel.

Lamborghini yellow and black. It has a leather-bound palm rest, a wheelrimmed accent to cover the fan lid, and a metallic keyboard. The Lamborghini VX2S comes with 2GB of DDR2 (double data rate 2) RAM, an Intel Core 2 Duo processor, Nvidia GeForce 8600 GT graphics card, and a high-end Web cam.

For The Power Gamer

Most gamers will tell you a computer's graphics capabilities are one of the most important features. That's not to say that processing speed, memory, and storage capacity can lag behind, however. If you are looking for a portable machine to take to LAN (local-area network) parties or a winter vacation home, concentrate on a notebook's graphics card, memory, and processing power. Because you'll be near a power outlet most of the time and because you'll be focusing on other features, you can let battery

> life slide a bit. Check out the Alienware Area-51 m9750 (starts at \$1,799; www.alienware.com). This notebook offers Nvidia SLI (Scalable Link Interface) technology, which allows two video cards to increase your computer's graphic horsepower. The Area-51 m9750 also features

up to 4GB of dual-channel DDR2 RAM, a 17-inch widescreen display, up to two hard drives, and an Intel Core 2 Duo processor.

Another strong contender for a mobile gaming notebook is the VoodooPC envy H:201 (starting at \$5,279.87; www .voodoopc.com), which boasts a 20inch LCD widescreen display. This 16-pound beast is a true desktop replacement with plenty of features for the extreme gamer. Along with its massive display, the envy H:201 comes with wireless and Bluetooth connectivity and an integrated 1.3MP (megapixel) video camera. This powerhouse uses an AMD 64-bit Turion processor.



Standard configuration includes 1GB of DDR2 RAM, a 100GB Seagate hard drive, and an Nvidia GeForce 7800 GTX graphics card.

For The Power Traveler

Frequent travelers want lots of power on the road but don't want to lug around a heavyweight laptop. These users require lots of battery life with zippy processing power. There are a number of powerful laptops for on-thego computer users. For instance, the ThinkPad X61 with Mobile Broadband (starts at \$1,589; www.lenovo.com) is an ultra-portable notebook that weighs

> as little as 3.11 pounds and offers approximately 11 hours of battery life. Because this notebook has mobile broadband connectivity capabilities, you'll never have to worry about finding a nearby hotspot (assuming you have a corresponding Verizon Wireless data plan). The ThinkPad X61 offers iron-clad security with its optional fingerprint reader and Client Security Solution

to help manage passwords and encryp-

Fujitsu's LifeBook U810 Mini-Notebook (starting at \$999; www.fujitsu .com/us) is another powerful, ultraportable notebook. This notebook's screen is able to twist and convert into a tablet PC. Perhaps most impressive is the fact that this notebook weighs only 1.56 pounds, yet still offers up to five and a half hours of computing time. Used in regular notebook mode, the LifeBook U810 has a slim OWERTY keyboard. When used in tablet PC mode, the LifeBook U810's touchscreen responds to finger or pen input.

Rev Up The Power

Regardless of your uses for a laptop, there are a number of powerhouse options from which to choose. Today's beefy models may cost a bit more than a desktop with equal specs, but at least you don't have to give up power for mobility's sake. II

BY JENNIFER JOHNSON

Hardened Laptops



f rough and tough are two words that your friends use to describe you, a ruggedized, or hardened, laptop is definitely worth considering. These laptops can resist drops, shocks, spills, and other accidents. What's even better, you don't have to choose between added durability and computing power; you can have both.

The customizable Systemax Assault (starts at \$999.99; www .systemaxpc.com) sports a magnesium alloy case with an antishock design and spill-resistant keyboard, touchpad, and buttons to withstand life's little accidents. Plus, this notebook offers the power you need to work or play on the go with its 14.1inch display and numerous features. The Assault comes with various versions of Windows XP

or Windows Vista. You can also select up to 4GB of PC5300 DDR2 667MHz dual-channel RAM (for \$250), and you can choose an Intel Core 2 Duo T7600 2.33GHz processor (for \$540). The Assault base model comes with a 60GB hard drive, but you can up that to a maximum of 250GB for \$180 if you need additional storage space. Although rugged, this notebook is still portable, weighing about 5.73 pounds.

Extreme mobile users will also like the General Dynamics

outdoor-viewable touchscreen with DynaVue technology. DynaVue increases outdoor visibility through contrast ratio, and it doesn't add a lot of drain to your battery life or processing speed. For nighttime use, the GoBook VR-2 has integrated dual-task lights and a sensor-controlled brightness display. Standard features for the GoBook VR-2 include an Intel 2GHz T7300 Core 2 Duo Processor, 80GB removable hard drive, and 512MB of RAM. You can upgrade many of these

These laptops can resist drops, shocks, spills, and other accidents.

GoBook VR-2 (starts at \$2,985; www.gd-itronix.com). This notebook can survive against temperature changes, vibration, dust ingress, altitude, humidity, drops, and spills. It has a 13.3-inch specs and add other customized options such as wireless broadband connectivity, GPS (global positioning system) capabilities, a fingerprint reader, optical drive, and more.



ou don't need to edit movies, lay out magazines, or design blueprints. You don't need to calculate and chart the bonding of atomic particles, run a business, or anything of the sort. All you want to do is write papers, browse the Internet, and listen to some music, or perhaps stream a movie every now and then or burn a CD of your favorite band. Like many computer users, you just want a good laptop that does the basics.

In the not-too-distant past, your computing options essentially consisted of a stationary desktop computer or an underpowered, overpriced laptop. Those laptops always looked so good, but how many of us could stomach paying all that money for a computer that did so much less than a desktop?

Fortunately, times have changed. While laptops still cost more than the average desktop, the price gap is closing fast and hard, and the level of performance you can get from a decent notebook now rivals many desktops.

Expandability has always been, and still is, a major issue with laptops. While it is relatively easy to replace older parts on a desktop or expand its performance, laptops are more or less landlocked into the shell they come in. If the screen is too small, for example, you can't just buy a new one; generally, the whole computer has to be replaced or else you have to learn to live with an inadequate screen size.

Yet there are many ways to expand the performance and usability of a laptop. For example, if the hard drive space becomes too crowded, an easy solution is to purchase an external hard drive to store the excess files. RAM is also easily updateable on a notebook, although the RAM sockets do have a limit on how much you can add. With PCI (Peripheral Component Interconnect) or PCI-E (PCI Express) slots, many nonstandard features and applications can be enabled.

Bare Essentials

There are some baseline vitals you want to have in any laptop, and they concern hard drive space, processing speed, and longevity. Unless you are storing a lot of video clips or a particularly enormous music collection on your hard drive, 80GB of space should be sufficient. If you're going to be storing a lot of video or music files, you should upgrade to a 120GB hard drive or invest in an external hard drive that can house your media library.

Processing speed has to do with how fast your processor is and how quickly your computer can access information. A 1.7GHz or faster processor will be fine, and make sure you have at least 1GB of RAM, although 2GB is not a bad idea if you want to keep this machine running smoothly and quickly for a few more years.

The idea of longevity of a computer is a little tougher to nail down. Who can say how long any technology will be relevant? In the foreseeable future, in any case, there are a few components of a good computer that should be around for a while.

USB ports are the de facto standard for connecting most peripherals to home computers, so you'll want to make sure you have two or three USB ports on your laptop. An Ethernet port is essential for networking PCs, and if you want a truly mobile system, make sure wireless connectivity is built into the notebook. Manufacturers are producing most new notebooks with integrated wireless features, but systems that don't have this capability can still use external wireless access cards.

If you do not have at least one FireWire port, there may be some peripherals that either will not run on your computer or will run slower than is optimal via a USB connection. Problems like this can often be solved by purchasing a PCI or PCI-E card. It's worth noting that the former is generally being phased out in favor of the latter, so if you have a choice, get a PCI-E card slot on your laptop.

There Are Options

Outside of those essential components, there are many considerations that must be made by each individual computer user, such as screen size,

weight of the laptop, and what you want in an optical drive. If you desire a larger screen (15.4 to 17 inches) to watch movies or to see multiple applications running simultaneously, then get it. Otherwise, don't spend the money and settle for a smaller screen, more on the order of 12 to 14 inches.

The same principle applies to the size and weight of the computer itself; you can find plenty of laptops under 5 pounds, but they tend to cost more than their slightly heftier counterparts that weigh up to 8 or 9 pounds. If portability is your top criteria, by all means, spend the money on a featherweight computer.

If you see yourself burning DVDs in the near future, spring for an optical drive that can do it, but most people will be content with a CD burner/DVD-ROM combo.

In regard to warranties and optional items, which many manufacturers like to throw in as you are customizing your order, add those products and services that will serve your needs best. You may decide you don't want any at all.

A Few Recommendations

We went shopping and priced some computers that will adequately serve the average laptop user. We've listed four models and some of their key components and features; all offer additional configurations on the companies' Web sites.

Apple MacBook \$1,099 as configured; www.apple.com

Mac OS X v10.4 Tiger 2GHz Intel Core 2 Duo 1GB RAM 80GB hard drive 13.3-inch glossy widescreen display 24X DVD-ROM/CD-RW optical drive AirPort Extreme wireless card FireWire 400 port and two USB 2.0 ports

Yes, it's expensive, but it will last you for years. Macs are well-engineered and sturdy, with parts made from

high-quality materials. And the caché of these über-cool machines is irresistible. Note that this price does not include a Microsoft Office suite, nor does it include a warranty. Combined, these will add several hundred dollars to the cost of this laptop.

Dell Inspiron 1501 \$723 as configured; www.dell.com

Windows Vista Home Basic Microsoft Office Home and Student 2007 1.8GHz Mobile AMD Sempron 3600+ 1GB RAM 80GB hard drive 15.4-inch widescreen XGA (Extended Graphics Array) display 24X CD Burner/DVD combo drive

Dell Wireless 1390 802.11g mini card

Although most computer manufacturers let you customize your computer to a certain degree before you buy it, Dell offers an unbelievable variety of choices, which is a terrific feature of the purchasing process. This laptop is a very nice bargain for a general-use computer user, although some people may prefer to upgrade Vista Home Basic to Vista Home Premium.

Toshiba Tecra A9-ST9002 \$1,588 as configured; www.toshiba.com

Windows Vista Ultimate Microsoft Office Basic 2007 1.8GHz Intel Core 2 Duo T7100 1GB RAM 80GB hard drive 15.4-inch widescreen XGA display DVD SuperMulti (±R double-layer drive) 802.11a/g/n wireless card





Toshiba Tecra A9-ST9002

The Tecra A9-ST9002 is another high-quality notebook from Toshiba. True, you can get less expensive Toshiba systems, but we were able to customize this one to suit our needs perfectly instead of settling for a laptop that perhaps was insufficient in certain areas and overkill in others.

Compaq Presario C700T Series \$574.99 as configured; www.hp.com

Windows Vista Home Premium 1.46GHz Intel Pentium dual-core T2310 1GB RAM

80GB hard drive

15.4-inch WXGA (Wide XGA) high-definition HP BrightView widescreen display SuperMulti 8X DVD±R/RW with doublelayer support

802.11b/g wireless card

This is the least expensive laptop we looked at, but you still get many nice features for only \$574.99. Bear in mind that this configuration does not include Microsoft Office software, or warranties, which will both cost extra.

The Bottom Line

The laptop that suits your lifestyle most is the one you should buy-just beware of features that you do not need or want, as well as those that are insufficient for your computer use. II

BY SETH COLANER

Apple MacBook (Image courtesy of Apple)

HELP AVOID PORTABLE PITFALLS

hen you consider that many affordable laptops offer performance and features comparable to desktop computers, you may wonder why desktops are still so widely used. Portability aside, laptops do have flaws, such as battery problems and limited upgrade potential, which you should mull over before you decide to invest. We'll give you a rundown of the laptopspecific issues that could influence your decision and provide tips on how to avoid some common problems laptop users may experience.

Power-Hungry

Most laptops have a battery life of less than four hours, and unless you plan on using a laptop in a fixed location with an AC outlet, such as your home or office, battery life can be a big concern. To maximize battery performance, some laptops feature a mobile processor, which is a type of processor that saves battery life by using a lower operating voltage and producing less heat than a traditional desktop processor. (To learn more about mobile processors, see the "Mobile CPUs" sidebar in "Buying A Laptop: A Primer" on page 46.) Laptop batteries also run down faster when you operate a processor-intensive program, watch a DVD, or power the wireyour laptop. To extend battery life, avoid running nonessential functions and lower the laptop's display brightness. Alternatively, you can purchase a second notebook battery or an external battery to give you a few extra hours of productivity when you're away from AC outlets.

Another problem is that the chemical process of recharging causes a laptop battery to hold less capacity after a given number of charge/discharge cycles. One cycle is the use of 100% of the battery capacity, which could be the result of several partial discharges/charges or a single full discharge/charge of the battery. Modern laptops use Li-Ion (lithium-ion) batteries that are expected to carry the full capacity for between 300 and 500 cycles. After 300 cycles, a Li-Ion battery typically holds only 80% of the battery's original capacity, and after 600 cycles, the battery generally needs to be replaced. To extend the working life of your battery, reduce the number of charge cycles by connecting the laptop to AC power whenever possible.

Limited Space Drawbacks

To fit all the components inside a laptop, manufacturers tightly pack the hardware inside the case, which leaves little room for heat to dissipate. Excessive heat can shorten the life span of internal hardware. For this reason, never block the intake and exhaust ports on your laptop (the laptop's manual will indicate where the vents are located).

The cramped design also limits your ability to upgrade the laptop's hardware. Let's say you want to add hard drive space. Unlike a desktop system, most laptops don't include a bay for a second hard drive, so you'll need to replace the hard drive with a largercapacity model and reinstall your operating system and software. If you need more storage, it may be easier to carry a portable hard drive that can also serve to back up your laptop's data. In some cases, such as if the laptop features integrated video, you may not be able to upgrade certain components.

Memory is one of the easier laptop components to upgrade. However, most notebooks limit the total amount of memory you can install and only offer two memory slots (compared to the three or four slots in a desktop system). If both memory slots are filled and you want to upgrade, you'll need

Over time, laptop batteries hold less of a charge and will eventually need to be replaced. Li-lon (lithium-ion) batteries generally last around 600 charge/discharge cycles.

less network radio on

to remove one of the modules and install a higher-capacity module in its place.

In conjunction with a wireless data service plan, you can connect a mobile broadband card, such as this Merlin S720 card (\$249.99; www.sprint.com) for Sprint's network, to your laptop and access the Internet anywhere in the cellular coverage area.



Security

Portability is a distinct disadvantage when it comes to theft prevention. It's easy for someone to grab an unattended laptop, so a laptop lock is an essential item. A laptop lock attaches to the VGA (Video Graphics Array) port, serial port, or security slot on your laptop and features a cable that you can wrap around an immobile object.

Besides the loss of your laptop, there's a possibility a thief could use the confidential information on your laptop to steal your identity. Some laptops offer an added layer of data protection with a built-in biometric fingerprint reader, which lets you in certain scenarios for an extended period of time. For example, most laptop screens measure between 12.1 and 15.1 inches diagonally. Small screens make the laptops good for travel, but if you work with high-resolution images, play games, or watch DVDs, the size of the display may be inadequate. Some notebooks come with 17-, 19-, or 20-inch screens, but these models are often more luggable than portable.

Additionally, the keys on some laptops are smaller or closer together than the keys on a traditional keyboard. If you're a touch typist, the smaller keys can reduce your accuracy and slow your typing speed. You may also have difficulties adjusting to the trackpad for

Depending on how you plan to use your laptop, some features or performance issues may be more critical than others.

require a valid fingerprint swipe to access individual folders or to automatically log in to a Web site. If your laptop doesn't include a fingerprint reader, you can purchase a third-party fingerprint reader that attaches to the USB port on your laptop.

The Comforts Of Home

Although laptops include a keyboard, a trackpad, and a screen, some of the built-in options may be difficult to use



mouse movements. If you prefer the feel of a traditional desktop keyboard and mouse, invest in or borrow the keyboard and mouse from a desktop system for use while on the road.

Shock Damage

The idea of using a laptop anywhere is certainly appealing, but like most electronics, laptops are meant to be used inside and treated with care. The most expensive hardware on a laptop is

> the LCD, and unfortunately, the screen is also the most fragile component. For durability, look for a casing that features a tough outer shell that helps protect the display. If the LCD gets cracked, it

When you use your laptop in a public place, we suggest you attach a laptop lock, such as this Kensington MicroSaver Alarmed Lock (\$54.99; www.kensington.com).

may cost more to replace the screen than the laptop is worth. You'll also want to avoid jostling the laptop because you can hurt the hard drive and other interior parts. Some laptops feature a shock mount, which is housing mounted inside the laptop with shockabsorbing material that protects the hard drive from shock and vibration.

Anywhere Internet Access

Even if your laptop features a modem, Ethernet port, and built-in Wi-Fi, you may have difficulty accessing the Internet outside your home. Most public places don't offer a telephone jack or Ethernet port, and if you find a wireless hotspot, you may have to pay a fee for the service. If Internet access is critical to your productivity, it may be best to purchase a mobile broadband plan from a cell phone provider, such as Verizon, Cingular, or Sprint Nextel. To access mobile broadband, you'll also need a PC card (or a mobile phone that you can connect to your PC) that can receive the mobile broadband signal from your provider.

Weigh Your Options

Depending on how you plan to use your laptop, some features or performance issues may be more critical than others. Certain weaknesses, such as short battery life, may not be an issue for someone who primarily uses a laptop at home or in the office. Alternatively, a laptop with a short battery life would be a major issue for someone who often works on the road. We suggest you identify which laptop-specific issues you'll need to watch for and choose a model that helps you avoid portable pitfalls. II

BY NATHAN LAKE

DESKTOP COMPUTERS

f you're in the market for a new desktop computer this holiday season, you're facing a daunting task. Sifting through all the features and specifications for every model made by all those companies can be quite cumbersome, especially when your computer has to meet your family's diverse needs. Fortunately, there are a few machines that stand out from the rest of the pack.

BY TESSA WARNER BRENEMAN



HP TouchSmart IQ770 \$1,799.99

www.hp.com

The HP TouchSmart is an all-in-one media hub that will help your family get organized. Its touch-enabled, 19-inch diagonal widescreen BrightView LCD allows you to take full advantage of Windows Vista Home Premium, including the Windows Aero user interface and Flip 3D. The HP Smart-Center presents easy access to your customizable page of favorite links and applications. Plus, HP SmartCalender gives you full control over your family's schedule, allowing you to leave personal messages as reminders. Keep track of your digital family photos through HP Photosmart Touch, which includes the ability to edit and print pictures. Storing lots of photos and other large files is no problem thanks to the 320GB hard drive. The IQ770 highlights the Nvidia GeForce Go 7600 graphics card, and with the AMD Turion dual-core processor, using multiple applications for work and play is a breeze. Plus, there's no need to clean out a large space for this PC—it fits into almost any nook with its all-in-one monitor and hardware system and wireless keyboard and mouse.

eMachines T5234 \$500

www.emachines.com

Whether you're looking to meet business or personal needs, the eMachines T5234 offers computing essentials at an affordable cost. The AMD dual-core processor provides for excellent multitasking capabilities, so you can download music and edit digital photos simultaneously without sacrificing processing speed. Windows Vista Home Premium is preinstalled, along with Microsoft productivity software, featuring tools to help you work more efficiently. The T5234's dual-channel memory and 320GB high-speed hard drive allow you to share large data files and downloads quicker from your digital devices. You can also enhance the playback of your audio and video clips with the Nvidia GeForce 6150SE integrated graphics chip and the 6-channel (5.1) highdefinition speakers. There are three different choices of monitors on the eMachines Web site that are all sold separately.



Gateway GM5472 \$719.99 www.gateway.com

With the Gateway GM5472, you'll never miss your favorite TV show because you're busy at the computer. This PC features an HDTV (high-definition television) tuner, compatible with both analog (NTSC) and digital (ATSC) signals, allowing you to watch live TV on your PC (requires separate ATSC antenna for digital broadcasts). You can also record TV shows onto the 500GB 7,200rpm SATA II (Serial Advanced Technology Attachment) hard drive, which includes 16MB of cache

1137 7

Falcon Northwest Mach V

Starts at \$2,543.11 www.falcon-nw.com

Falcon has a great reputation for making great custom-built computers. This stunning machine is one of the most cutting-edge gaming PCs available, and with all of its options, there are few machines just alike. Choose whatever hardware best suits your price range. The Mach V features Nvidia's SLI (Scalable Link Interface) technology, allowing dual graphics capability to increase your computer's graphic horsepower. It offers several of Intel's top picks for its processor, including one of the market's best, the Intel Core 2 Extreme quad-core QX6850. The Mach V also offers CPUs from the AMD Athlon 64 family. The Mach V allows for up 8GB of memory and no less than 2GB. Choose to have up to four hard drives added, all with up to 1TB (terabyte). You can choose Windows XP Pro or any of the Vista operating systems, including the Vista Ultimate 64-bit edition. Regardless of what options you choose, the Falcon Northwest Mach V is sure to provide maximum speed, quality, and power. You can even customize the paint to get just the right look—no detail goes ignored while assembling these PCs.



iMac \$1,199 to \$2,299 www.apple.com

The slim, cutting-edge design of this computer might be the first thing that captures your attention, but there is plenty of beauty on the inside, as well. In August, Apple released its latest version of the iMac, an all-in-one, high-powered computer that comes loaded with lots of useful applications. The iMac comes in three configurations—two 20inch models and one 24-inch model. They all carry an Intel Core 2 Duo processor that allows for up to 4GB of memory. All models include the SuperDrive, a feature that's ideal for burning CDs and DVDs. The built-in iSight camera is hardly noticeable as it blends into the exterior, and it can be used to video chat with loved ones living far away. The iLife application is included, combining several of Apple's best media features. For example, develop an electronic library of your digital photos using iPhoto or create your own home movies with iMovie. Make copies of your home videos using iDVD or generate a custom slideshow by combining iDVD and GarageBand. Finally, share these creations with friends and family using the .Mac Web Gallery.

Image courtesy of Apple

memory. The AMD Athlon 64 X2 5000+ dual-core processor with AMD Live! produces quality video, operating at 2.6GHz. The GM5472 presents 2GB of DDR2 (double data rate 2) memory, expandable to 4GB. In addition, it comes with Windows Vista Home Premium and a Vista Media Center remote control. You can watch DVDs and burn CDs and DVDs with the 16X DVD±R/RW dual-layer SuperMulti optical drive. The 15-in-1 memory card reader transfers digital files from almost any device. The monitor, however, is sold separately.

STOCKING STUFFERS

Microsoft Expression Media \$299.99 www.microsoft.com

With Microsoft Expression Media, you can manage all digital media using just one application, compatible with both Windows and Mac. Import



more than 100 different media formats with the dragand-drop function. Whether your files are stored on CDs/DVDs, hard drives, or in shared folders, Expression Media will be able to locate them in seconds. Present your creations as slideshows, videos, or Web galleries using one of the professional design templates. Expression Media also generates high-quality, high-resolution videos to share with friends and family.

Sony VAIO TZ150N/B \$2,199.99 www.sonystyle.com

This ultra-portable, ultra-chic notebook offers plenty of power and style. The TZ150N/B features an Intel Core 2 Duo processor, 1GB RAM, and 2MB of L2 cache, and it's just 1.5 inches thick. Weighing a mere 2.7lbs, the TZ150N/B allows for four to seven and a half hours of standard battery life. The 11.1-inch widescreen display provides outstanding color and clarity, highlighting the

XBRITE-HiColor LCD technology. (For more information about laptops, see our "All About Laptops" feature package starting on page 44.)



PRINTERS & PERIPHER ALS

printer may not be the most whimsical gift, but it's an essential device for most any computer user. Whether the person on your holiday list needs to print high-quality documents, digital photos, charts and graphs, or even labels for CDs and DVDs, you'll find a printer in our list that's up to the task. And don't forget to check out our "Stocking Stuffers" sidebar for some helpful accessories.

BY NATHAN LAKE

Lexmark Z1420 \$79.99

www.lexmark.com

Inkjet printers under \$100 are common, but at \$79.99, the Lexmark Z1420 includes a feature found primarily on highpriced models—built-in wireless 802.11b/g network connectivity. Those who already have a wireless network at home can

easily integrate the Z1420 using Lexmark's installation software. Besides easy sharing, built-in wireless connectivity also gives you the freedom to place the Z1420 nearly anywhere in the house. For wireless security, the printer supports WEP (Wired Equivalent Privacy), WPA (Wi-Fi Protected Access), and WPA2 encryption. Lexmark sells a separate tri-color photo cartridge (\$29.99) that can replace the black ink tank, effectively turning the Z1420 into a six-color photo printer.

Brother HL-4040CN \$399.99

www.brother.com

If you're looking for a high-performance printer the entire family or office can use, check out the Brother HL-4040CN. This color laser printer features built-in Ethernet connectivity, so everyone on the network can share the printer without using another computer as a server. There's also a USB port that lets users print files directly from their USB flash drive or PictBridgeenabled devices. The HL-4040CN delivers text and graphics with an output quality of 2,400 x 600dpi (dots per inch). It features a 21ppm (pages per minute) print speed in both color and monochrome. And with a 300-sheet capacity, your recipient won't often need to refill the paper in the printer.



Epson Stylus Photo R280 \$99.99

www.epson.com

Not all digital photo prints are created equal. Some inkjet printers produce prints that fade after being displayed for only a year. The Epson Stylus R280 uses Claria Hi-Definition inks to prevent fading. With six colors of ink, the photo buff in your life will love the vivid and vibrant results. Additionally, it uses an individual ink cartridge system, so your friend can replace a single cartridge instead of tossing out a multicolor tank that may have some ink remaining. The R280 can also print directly onto printable CDs or DVDS, and it includes software to design custom labels. Another handy feature is the builtin photo correction controls for automatically adjusting images.

HP Photosmart A526 \$99.99

www.hp.com

Photo printers allow you to print images from a digital camera, but with the HP Photosmart A526, the photographer in your life can also

print photos on the go. At 5.4 x 8.9 x 4.6 (HxWxD), the A526 resembles a small toaster but with a 2.4-inch LCD screen and a handle for carrying. For travel convenience, the input and output trays fold and lock to the printer. The A526 includes support for several popular types of memory cards. Additionally, this printer lets you print images from a USB flash drive or a PictBridge-enabled device.





Dell 1320c \$299 www.dell.com

Color laser printers are often big and bulky, but the Dell 1320c is only a little taller than a standard monochrome laser, so your gift recipient won't need to clear a lot of desk space. This stylish color printer is no slouch, either, producing color documents at 12ppm and monochrome material at 16ppm.

The 1320c can handle specialty media, such as envelopes and post-cards, via a single-sheet manual feed slot. For easy maintenance, the 1320c includes a side panel that lets users simply slide the toner cartridges in or out. As an added bonus, the Dell printer software sends an alert when a cartridge runs low on toner.

HP Photosmart C5280 \$149.99

www.hp.com

An MFD (multifunction device) offers the capability to print, scan, and copy from a single unit, which can help the special multitasking person on your list maximize desk space. The Photosmart C5280 is part of a new breed of MFDs that can produce lab-quality photos and print labels on inkjet-ready CDs and DVDs. The 4,800 x 4,800dpi integrated scanner lets your friend scan or copy old photos without reducing the picture's image quality. When copying, users can preview images on the 2.4-inch LCD before printing. The C5280 supports all the popular types of memory cards, and the LCD panel includes controls to edit the im-



ages. The C5280 provides a 125-sheet main paper tray and a 20-sheet 4x6 photo paper tray, so your friend won't need to switch the paper each time he or she prints a photo or document.

STOCKING STUFFERS

Fellowes Mars ML-95 Laminator \$69.99 www.fellowes.com

Often-referenced documents, such as the family to-do list, suffer from a lot of wear and tear. If a person on your hol-



iday list (such as a busy mom who's always on the go) needs to prevent creases, stains, smudges, or wrinkles on printed material, consider the Mars ML-95 Laminator. This portable model features a carrying handle and can accommodate material up to 8.5 x 11 inches.

Memorex AquaGuard Inkjet Printable CD-R 10 Pack \$12.99

www.memorex.com



Designed for printers with CD/DVD labeling capabilities, Memorex's AquaGuard technology helps prevent ink from smearing or spreading on the disc label. Additionally, the blank discs' printing surface is smudge- and water-resistant, so the disc labels will stay eye-catching.

HP bt450 Wireless Printer And PC Adapter \$39.99

www.hp.com

This USB dongle lets the HP Photosmart A526 (and other compatible HP printers) receive pictures from Bluetooth-enabled devices, such as camera phones, digital cameras, and PDAs (personal digital assistants). When used with the portable A526 printer, the HP bt450 adapter is a great companion at parties, local sports events, or reunions to let friends and family print and share their photos on the spot.



MONITORS & DISPLAYS

t wasn't so long ago that a simple, non-widescreen, 19-inch LCD was quite a nice computer upgrade—and a fairly expensive one. Today, widescreen monitors are all the rage, and the prices for many widescreen monitors are actually pretty tolerable, even for larger displays.

Let's take a look at some displays that we're sure just about

anyone will be happy to unwrap this holiday season.

BY MICHAEL SWEET

Samsung SyncMaster 275T \$999.99

www.samsung.com

Samsung has come on strong the past few years as one of the best LCD PC monitor and LCD TV manufacturers. The SyncMaster 275T is a 27-inch display that has just about everything anyone could want in a widescreen monitor. It has a resolution of 1,920 x 1,200 and an excellent 500cd/m2 brightness. Perhaps the monitor's best feature is its amazing contrast ratio of 3,000:1; this display can generate deep blacks and bright whites.

Speaking of high-def, this monitor has an HDCP (high-bandwidth digital content protection) connection, so feel free to run that high-definition DRM (digital rights management)protected video on your PC. An HDCP display will ensure that you'll be able to watch any video with DRM protection at its best resolution. Without HDCP, that video may be downgraded

> from gorgeous high-definition to run-of-the-mill "DVD quality" video. The SyncMaster 275T's 6ms (milliseconds) response time is also impressive for a monitor of this size. Samsung also saw fit to integrate four USB ports into the monitor's bezel, so you can connect your mouse and keyboard directly into the monitor.

Samsung has a real winner here.



Apple Cinema HD Display M9179LL/A \$1,799

www.apple.com

You're going to have to set up a really big Christmas tree this year if you want to squeeze this display under it. Apple's 30-inch Cinema display is one of the biggest and best you can find for your PC. It has a massive 2,560 x 1,600 screen resolution and a 700:1 contrast ratio. (The greater the contrast ratio, the bigger the difference is between the darkest dark colors and whitest whites on-screen, so the bigger the number, the better.) Its 14ms response time is just a bit on the slow side, but that's not unusual for such a large monitor, and it should still be good enough for fast-paced action on-screen.

You'd expect an Apple product to look as good as it functions, and that's certainly the case here. The Apple Cinema Display has a gorgeous anodized aluminum case. Its bezel is very slim, so you could put two of them side-by-side and hardly lose the illusion of one very widescreen display. We also like the fact that Apple incorporated a pair of FireWire 400 ports into the display, as well as two USB ports. Beautiful.

STOCKING STUFFERS

Pantone huey \$89 www.pantone.com



If the person you're giving a monitor to is a serious shutterbug or video enthusiast, then you'll want to pick up a color calibration kit to ensure that the monitor's color is as accurate as possible. Pantone's huey is excellent for this, and at \$89, it's pretty affordable compared to most calibration kits.

Dust-Off LCD Screen Cleaning System \$8.99 www.shopfalcon.com



It doesn't take long to notice some dust and a few smudges on a new monitor's screen. Pick up a package of monitor cleaning wipes or a monitor cleaning kit. They're definitely "stocking stuffer" size and will come in handy. We like the Dust-Off LCD Screen Cleaning System from Falcon Safety Products.

HP w2408 \$570

www.hp.com

Not everyone wants to pony up for an extra-large LCD, but many users still want a lot of screen real estate at a friendly price. HP's 24-inch w2408 monitor fits that description well. It has a wide-screen resolution of 1,920 x 1,200 and a better-than-average contrast ratio of 1,000:1. The w2408 also has an HDCP connection, so it's compatible with DRM-protected high-definition video, a feature that's becoming more important as we move into the HD DVD/Blu-ray era.

Naturally, you want a fast display to keep up with that fast-paced film action, and the monitor's 5ms response time is certainly speedy enough. The w2408 also has a pair of USB ports so you can connect a couple devices directly to the monitor. This is a good way to snatch photos off your digital camera—just plug the camera into the monitor and start downloading. One of the best features of the w2408 is its price. Less than \$600 for a widescreen display with this many features should be pretty affordable for most users.



Envision G218a1 \$279.99

www.envisiondisplay.com

There's no doubt that some PC users will want to save a little extra holiday cash this season while still treating themselves to a nice widescreen monitor. If that's the case, you'll want to check out this LCD from Envision. This monitor has many of the fancy features of more expensive models, but it's available at a very affordable price. It wasn't that long ago that a 19-inch LCD would cost in the neighborhood of \$300, but you'll get a lot more for your money with the G218a1.

This 22-inch display has a 1,680 x 1,050 resolution and supports HDCP high-def video, a feature that you'll usually find only on more expensive displays. Its 700:1 contrast ratio is acceptable for a monitor of this size, and it will still yield good color contrast between dark and light colors. Of course, the 5ms response time is plenty fast enough for fast-moving video, such as games or action movies. The G218a1 doesn't include USB or FireWire connections, but we're happy to sacrifice extra ports for an HDCP monitor that costs less than \$300.



Dynex 10-foot DVI Cable \$47.99

www.bestbuy.com



Some monitors include a DVI (Digital Visual Interface) cable so you can connect your new monitor to your PC right out of the box. If the monitor you buy doesn't include a DVI cable, be sure to snag one when you buy the monitor. And don't feel as though you have to buy the most expensive cable available. An in-house brand, such as a Dynex cable from Best Buy, will get the job done.

DVD movie of choice

Whenever we get a new monitor (especially a widescreen model), our favorite thing to do is pop in a brand-new DVD. If you're connecting the monitor to a PC with a good audio system and a TV tuner, you've just made a nice, new mini home entertainment center. Buying a new DVD to go with a new monitor is one of the best ways to enjoy it.

MICE, KEYBOARDS & OTHER INPUT DEVICES

hey are our faithful companions in Web surfing, email, chat, photo editing, and about any other activity we tackle with our computers. We're speaking of input devices, of course-mice, keyboards, Web cams, and other devices that help

us enter text in Word documents, zap zombies in virtual worlds, go clickcrazy at Amazon.com, and touch up digital photos in Photoshop.

Finding the perfect mouse or keyboard is a definite matter of personal taste that usually involves comfort, functionality, cost, style, and other factors. Fortunately, manufacturers offer a great deal of varieties to choose from, including the following devices, which represent some of the newest available, as well as a few of our current favorites.

BY BLAINE FLAMIG

Logitech VX Nano Cordless Laser Mouse for Notebooks \$69.99

www.logitech.com



Logitech MX Air Rechargeable Cordless Air Mouse \$149.99

www.logitech.com

If the MX Air's glossy-black, semitransparent looks don't sell you on this incredible mouse from revered device maker Logitech, then its futuristic, streamlined construction and ability to navigate on and off the desk from up to 30 feet away via 2.4GHz wireless connectivity and Freespace motion technology should. Although indisputably pricey at nearly \$150, Logitech bundles an equally attractive charger to rejuvenate the MX Air's Li-Ion battery and plenty of built-in functionality via SetPoint software. Ultimately, though, your \$150 puts a wonderfully functional piece of sculpture on your desk.

Although Logitech aims this exceptional rodent at notebook users, it represents itself

world's smallest 27MHz USB receiver for mice. When plugged in to a USB port, the re-

equally well in desktop use. Cordless ability comes thanks to what Logitech calls the

Microsoft Mobile Memory Mouse 8000 \$99.95

www.microsoft.com

Microsoft's impish Memory Mouse 8000 is noteworthy for a few reasons. The silver-and-black, puck-sized 8000 works with either a bundled 2.4GHz USB transceiver or Bluetooth connectivity. The transceiver doubles as a 1GB USB memory drive. Although flash drives are a dime a dozen, combining transceiver and storage duties in one device frees up a USB port and means fewer devices to keep track of. The transceiver also plays a role in recharging the 8000's NiMH (nickel-metal hydride) battery via an unconventional but effective magnetic-cord approach. Add in Microsoft's

great Magnifier tool, fourway scrolling, five configurable buttons, and Vista compatibility, and the 8000 is a fine dualduty travel companion.

Microsoft Wireless Entertainment Desktop 8000 \$299.95

www.microsoft.com

Yes, the Desktop 8000 really is priced a nickel shy of \$300. Still, the rechargeable keyboard (four NiMH batteries) comes with the great Wireless Laser Mouse 8000 (\$89.95 standalone) and oozes with Vista-compatible functions geared to couchside users who want multimedia control. Microsoft calls the 8000 the ultimate keyboard, and it might be. Whether it's the motion-sensitive, LED-backlit buttons; built-in light sensor; 2.4GHz Bluetooth connectivity; quick-launch buttons; integrated Navigation Pad (no mouse required); or charging hub sporting four USB ports, the Desktop 8000 is impressively armed. Whether all that and a handsome brushed-aluminum body can get you to pull the \$300 trigger is another question.

Notebook Set \$129.99

www.kensington.com

Kensington SlimBlade Media The Media Notebook Set, part of Kensington's new SlimBlade line, doesn't exactly "reinvent the computer interface" as Kensington suggests, but its straightforward use of magnets is a definite success. Essentially, the Notebook Set amounts to wireless keyboard, mouse, and keypad modules you can connect in any order using the magnets. Additionally, an optional wireless SlimBlade Media Remote (\$19.99) controls Windows Media Center content from 30 feet away. As for the modules, the laser mouse has a 360-degree scroll wheel and powers off automatically; the keyboard is Windows- and Mac-friendly (a Kensington trait) and has OS (operating system)-dedicated buttons integrated; and one transceiver connects everything.

Creative Live! Cam Optia AF \$129.99

www.creative.com

That "AF" in the Optia's name stands for autofocus, as in this 2MP (megapixel) Web cam will automatically focus the video and still photos you shoot or stream. (You can take photos of up to 8MP with software enhancement.) This beauty will also auto-adjust white balance, brightness, and other lighting settings, and Creative's Live! Audio tool automatically cancels background noises the camera's built-in microphones pick up. Just as nice is the Optia's twisting-body design; versatile mounting bracket; 30fps (frames per second) 640 x 480 video captures; and scores of special effects, avatars, and other software goodies Creative throws in. Comparably priced with Microsoft's LifeCam and Logitech's QuickCam models, the Optia looks and works equally well with desktops or notebooks.



Logitech Wave Keyboard \$49.99

www.logitech.com

The Wave, available as a corded standalone or cordless Desktop Wave keyboard-mouse combo (\$89.99) looks great, and its Vista-specific buttons (Flip 3D, Zoom, Gadgets, etc.) are a nice touch, but the reason to make a fuss over Logitech's newest keyboard is its gradual 5-degree curving U-shape layout and contoured "wave" keys. The prevailing idea behind the design is that because our fingers aren't the same length, keyboard keys should accommodate the differences. By using various key heights (the A and ENTER keys are higher than the G and H keys, for example), Logitech says the Wave offers better ergonomics and more natural hand positioning. We say the Wave is yet another hit for Logitech.

WENT TO SEE THE SECOND SECOND

IOGEAR Digital Scribe \$99.95

www.iogear.com

IOGEAR describes the Digital Scribe as the first device that can capture natural handwriting on any surface; other digital pens typically require special paper to track pen movements. Using a transmitter, infrared sensor, and built-in OCR (optical

character recognition) software, the Digital Scribe makes converting handwritten notes, diagrams, and drawings to digital content conveniently possible. In addition to using ordinary ink, it uses an electronic receiver to move data to a computer. You can create Sticky Notes on your Desktop and configure notes with pop-up reminders. Nice.

STOCKING STUFFERS

If there's a spot on your Christmas shopping list this year for a messy little geek, Belkin's Washable Mouse is the perfect stocking stuffer. Complete with vertical and horizontal Scroll Pad, the 1,200dpi (dots per inch) optical corded mouse is also water-resistant, meaning a good scrubbing won't hurt it. When it's time to pack the newly cleaned rodent for portable use, Belkin provides the means to do so with its Mouse Trap, a pouch that not only totes the mouse, USB memory sticks, an MP3 player, and other devices, but also doubles as a mouse pad when unzipped.



Belkin Washable Mouse \$29.99 www.belkin.com



GOODIES & GADGETS

is the season for giving. On the other hand, what do you give someone who has it all? You needn't worry about that conundrum this year. Read on, and like visions of sugarplums, a high-tech solution will appear.

BY MARTY SEMS

Franklin Merriam-Webster Collegiate Dictionary, 11th Edition \$119.95 www.franklin.com

This is a talking electronic dictionary from the legendary Franklin. This model is wider than it is tall, making it easier to read long entries on its wide screen than on earlier versions. You can even change the font size to suit your eyesight. A headphone jack is included so you can use the dictionary anywhere without disturbing the people around you.

Actually, it's not really fair to call the SCD-1890 a mere dictionary. Its 400,000 definitions include biographies and geographical information. There's a 500,000-entry thesaurus, too, plus grammar



and punctuation guides and a phonetic spelling assistant. Confused about which spelling of similar-sounding words to use? This gizmo can help you there, too. For travelers, there are translators for Spanish, Italian, French, and German; a world clock with local times; and converters for currency and metric measurements, along with a calculator. There are even games to play while you travel, including a crossword puzzle solver (cheater, cheater). The SCD-1890 uses two AAA batteries or a 9-volt adapter (sold separately for \$9.95).

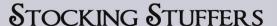
lomega eGo \$139.95 www.iomega.com

The eGo has been making waves as the most gorgeous portable hard drive on the market. This rugged beauty stores 160GB in your choice of red, midnight blue, silver, or black metal enclosures. Iomega says that even more color options are on the way before the holidays, but we're still in love with the dusky red of the first eGo we ever met.

The eGo is as tough as it is pretty. With its DropGuard technology, the drive can survive falls of up to 51 inches, lomega says. That's very important in a drive designed for portability. The 5,400rpm eGo gets its power through its USB 2.0 cable. In case a particular USB port can't provide enough juice to run the drive properly, lomega's special cable includes a second connector. Plug both connectors in, and the eGo

should have all the power it needs.

You'll get a software license for a download of EMC Retrospect Backup free with the drive (but no bundled software CD). Iomega says that the drive works with Windows 2000/ XP/64-bit XP Pro/Vista and Mac OS X 10.1.5 or later, and it's backed with a one-year warranty. Also new for the holidays is a 250GB FireWire/USB combo model (red only). This \$159 option should be available by the time you read this.



Pocket UV Disinfector \$19.95 www.marketgypsy.com

Ever get creeped out by the thought of all the bacteria that accumulates on a mouse or keyboard? It's not easy to give input devices the scrubbings they deserve, but at least you can help someone kill off the germs during the cold and flu season. Slip the UV Disinfector into her stocking. This gadget emits high-frequency UVC light that can kill viruses such as Staph, Influenza, and E.coli in seconds. It also works on children's toys, shopping cart handles, the soap dispenser in public restrooms—anywhere you shine its light.





ezGear ezWake Alarm Clock Radio For iPod \$99.99

www.ezgear.com

Not EZ-Bake, but ezWake. What's cooler than an iPod docking station/recharging unit with great sound? An ezWake alarm clock and radio. It can wake you up with your favorite iPod music or AM/FM radio station. The unit's big, blue LCD clock is easy to read and lets you adjust its brightness level.

However, one of our staff members, who tried out the ezWake for a month, pointed out a few improvements ezGear could make. Unlike a traditional alarm clock, she said, the ezWake's display turns off when you shut off the unit. This means that if you awaken in the night, you won't be able to see what time it is. Also, the setup required to make sure the alarm will go off could be a little simpler, she said.

The ezWake also has a 24-function remote control. It lets you adjust treble, bass, and volume levels, as well as pause, mute, and skip songs during playback (as applicable). Better still, the remote allows you to navigate your iPod's menus and functions from across the room. And the ezWake doesn't stop there. You can run it on batteries, although it takes a boombox-like set of eight D-cells. The ezWake can send video to a TV through an included A/V cable and also act as an amplified sound system for an external audio source, such as a portable CD player or game console. It comes in white or black. Despite its quirks, our coworker didn't want to give up the ezWake once she got used to it. "The sound is wonderful!"



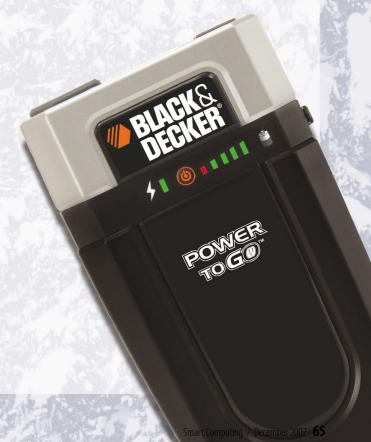
Black & Decker Power To Go CPI10B \$19.99

www.blackanddecker.com

Black & Decker, long known for its quality power tools, also sells a full line of portable power sources and car battery boosters. It's only natural that the company has extended this concept to cell phones and other mobile electronics with its new Power To Go lineup.

Besides the pocket-sized, 10-watt CPI10B we received, there are physically larger and more powerful 20-watt (\$29.99) and 100-watt (\$49.99) models available. The 10-watt model can provide an extra hour's worth of usage time to smartphones, MP3 players, camcorders, razors, Bluetooth headsets, and other electronics. It comes with an AC adapter to recharge its internal battery, plus a fabric carry bag with a drawstring.

A Power To Go lets you avoid the hassle of buying specific adapter tips for each of your mobile gadgets. Instead, it offers a two-prong, 115-volt AC outlet to work with your devices' existing AC adapters. There are a few drawbacks to this approach, such as the extra weight of the Power To Go's internal transformer and the fact that you'll need to lug around each device's "wall wart." However, the CPI10B also features a standard USB power port, so for devices that can recharge through USB, all you'll need to pack is a cable.



GOODIES & GADGETS

Solio Classic Universal Hybrid Charger \$99.95

www.solio.com

Like the Black & Decker pocket recharger, this clever gadget lets you give your cell phone, digital camera, and PDA (personal digital assistant) a quick power boost when their batteries run low.

However, the Solio Classic puts a new twist on this scenario. It has an internal lithium-ion battery you can charge with an included AC adapter. But after you use the Solio to recharge your portable devices, try that new twist we talked about: Twist its three "petals" to open like a flower, and you'll have three efficient solar panels ready to catch the sun's rays. Eight or 10 hours of sunlight will top off the Solio's internal battery. Solio packs six adapter tips with the Classic, so you'll be able to charge various

devices from Samsung, Nokia, Sony Ericsson, and LG, among others. Two of the tips cover the many devices that get their power through USB or mini USB connectors. As for the AC adapter, Solio chose a configurable design to make in-

many parts of the world.

The Solio comes in black, white, silver, and pink. It doesn't come with a carrying case, but you can buy one for \$24.95 on the company's site. There's also the less expensive Solio Hybrid 1000 for \$79.95, available on the company's site.



Mondo Mint \$349

www.mondo-usa.com

Here's one of those gifts the whole family may want to "go in on" for an iPod lover. It's not just an iPod recharging dock—it's a compact sound system that can really bring someone's music collection to life.

You can connect an iPod directly to the Mondo Mint using one of several included adapters for various generations of the player. Alternatively, you can use the Mint's included wireless dock to transmit clear sound to it from as far as 100 feet away. The system can also amplify stereo (2-channel) audio from a computer, game console, TV, or practically any other device with a 1/8-inch headphone or USB audio output. In other words, the Mondo Mint goes beyond music to handle virtually any home audio entertainment.

Mondo packed the Mint with the best possible audio components for the price. Its proprietary DI-FI (Digital Fidelity) technology joins Texas Instruments' PurePath Digital processing for remarkable sound quality. The Mint's Class D digital amplifier provides 70 watts per channel and allows you to add other 4-, 6-, or 8-ohm speakers. Wooden speaker cabinets house Peerless neodymium textile tweeters and Aura-Sound aluminum woofers for sparkling sound clarity. Speaking of the

> speakers, you can mount them on the wall, if you like. And unlike most iPod docks, the Mondo Mint lets you move its speakers approximately 10 feet apart for a better stereo effect.







STOCKING STUFFERS

Corsair Flash Padlock \$29.99 1GB: \$39.99 2GB

www.corsairmicro.com

Another stocking stuffer idea is Corsair's excellent Flash Padlock USB drive. It keeps your data secret because you have to key in a PIN before you connect it to a computer. If you don't, the computer won't even recognize the drive. Corsair makes it easy to program this flash memory drive with your own PIN or even to use it without a PIN at all. This initial version of the Flash Padlock doesn't use encryption, so it's really intended for casual users. Corsair plans to release a more secure, encrypted version by the middle of next year.



Quick Studies How-To

Microsoft Word 2007

Learn The Ways Of The Ribbon

Word Processing Beginner

> 2007 for WinXP/Vista

e focused in the previous two columns about Microsoft Word 2007 on the program's radical new interface. We will finish up by taking a look at the Ribbon and examining its workings in more detail.

The Ribbon is composed of different areas

which are accessed by clicking tabs. The default tabs are Home, Insert, Page Layout, References, Mailings, Review, and View. The tabs that are available on the Ribbon will depend on what you are doing. For example, a tab called Format will appear if you are creating a drawing object.

Also, the Ribbon's appearance will change depending upon the width of the Word window. In-

formation will be consolidated to fit the space as you shrink the window. The Ribbon cannot be customized in the same easy way as toolbars could be in previous versions of Word. You would need to delve into some programming to change things.

Fortunately, the Quick Access toolbar above the Ribbon provides a location for functions you use often, and it is very easy to use. We'll talk about it

> below after getting a few essentials out of the way.

You can add or delete commands from the Quick Access toolbar easily through the Word Options window.

Galleries let you apply formatting quickly, in this case, for a page header.

Different Access Points

Some buttons on the Ribbon—for example, the Paste button on the Home tab—have arrows on them. These buttons can be used by clicking them or by clicking the arrow to get additional options.

Some of these buttons will open a dialog box that resembles what you would have seen in previous versions of Word. On the Home tab, click the Find button and the Find And Replace dialog box opens. Likewise, on the Review page, click the Spelling

And Grammar button to start that function.

In other cases, the options that had been available from dialog boxes in previous versions of Word are now part of a drop-down list. Click the Line Spacing button on the Home tab and a list of options is presented. You can directly designate line spacing and add or remove space from before or after the current paragraph without opening a dialog box.

Some buttons lead you to galleries of presets. Click Page Number (in the Header And Footer section) on the Insert tab and then click Top Of Page. A scrollable window of preformatted numbers appears for you to choose from. Some galleries, like those in the Styles section on the Home tab, appear right in the section and can be directly scrolled.

Quick Access Toolbar

The Home tab contains the most-often-used functions for creating a document. But you may, for example, work on projects that frequently require you to insert hyperlinks and find yourself flipping back and forth between the Home and Insert tabs. Likewise, you may often work on projects that require footnotes, which you can insert from the References tab. Finally, you may like to directly send documents from Word via email, which you can do through the Office button.

By default, the Quick Access toolbar contains buttons for Save, Undo, and Redo. Click the arrow to the right of those buttons and choose E-mail to add it to the bar. Now click the arrow again and select More Commands to find other functions. Insert Hyperlink is in the list on the left of the Word Options dialog box. Click it and click Add to add it to the bar (or double-click it). There is no Insert Footnote command in the list, however.

We know that Insert Footnote is on the References page. In the Options dialog box, click the Choose Commands From drop-down box. Click References Tab and you'll find Insert Footnote.

You can also add buttons to the Quick Access toolbar on the fly. While working, for example, you may find yourself switching to the Review tab and pressing New Comment repeatedly. Instead, rightclick the New Comment button and click Add To Quick Access toolbar.

With a little practice, you'll be able to navigate the Ribbon with ease. Customizing the Quick Access toolbar will make using Word 2008 even more efficient.

BY TOM HANCOCK

Quick Studies How-To

Broderbund Print Shop Deluxe 22

Create A Quarter-Fold Card

Beginner

Desktop **Publishing**

22 for Windows 2000/XP

n most of our columns about Broderbund Print ■ Shop Deluxe 22, we show you how to perform particular tasks during the creation of a project. This month, we are going to go through a project from start to finish. We'll walk you through the process of creating a personalized quarter-fold

To get started, launch Print Shop Deluxe 22 and

choose Greeting Cards in the Project Picker. Choose Printed Greeting Cards and then click Next. Pick Quarter-Fold and Customize A Quick-Start Layout and then click Next.

The Project Gallery will open. Click View and Advanced Search. The words Cards and Quarter-Fold appear in the Select Type Of Proj-

ect drop-down box. In the Choose Project Category list, choose Birthday. In the lower-right corner of the Project Gallery, you can see there are nearly 400 items in the Birthday category. Refine the search by clicking the plus (+) sign next to the Birthday category and choosing a subcategory such as Friend or Kids.

Happy Birthday!

Find a card you like and then click it and click the Large View button on the Project Gallery menu bar. (It's the largest in a set of three rectangles.) The text on the card might not be to your liking, but you can change it once you place it on the Design Desk. Double-click it to do so.





In Your Own Words

Ouarter-fold cards have a front, an inside, and a blank back. Take a look at the sections of the card you have chosen by clicking the left or right arrows in the lower-left corner of the Design Desk.

On the front panel of the card, you may wish to change the generic wording to include information such as the recipient's first name. Double-click the text box and the cursor will appear. Type in the new words, such as "Happy 4th Birthday, Skylar!"

If the color of the text is not to your liking, select the text and click the Color button on the Print Shop Standard Toolbar. Select Object and choose a color from the Color Palette or click More for other options. Likewise, you may prefer a different typeface. Click the Font drop-down box to select a different font. The new font may cause the text to no longer fit in the text box. If this is the case, adjust the box by clicking and dragging one of its handles or change the text size through the Font Size drop-down menu.

Now go to the inside of the card. The inside may simply consist of a text box and a solid background. If the background is colored, you can double-click anywhere on it to open the Add A New Shape dialog box. Click the Fill Color button to change the color, create a blend, or use a texture.

The text box can be changed to any message you like in the same way that we changed the front panel. You can use the inside space for text, a picture, or a combination of both.

Add An Image Of Your Own

Use a photo to add a personal touch to a Quick-Start Layout and make the card less generic. The quickest way to add a photo to a project is to use one that is already on your hard drive.

Add an image from the hard drive by clicking Insert and From File and browsing to the photo you want. Double-click it and resize it to fit on the card. If you have an image on your camera or want to scan an image, click File and Select Image Source and choose the appropriate device. How you proceed from here will depend on how the attached device works.

Click File and Print Preview to see how the card will look when printed. The layout is automatically adjusted to accommodate the folds.

Make any changes to the project and then do a grayscale test print on plain paper and fold it to see if it looks the way you want it to. This saves on color ink and expensive paper. Most printers have a setting that allows you to print grayscale using only the black cartridge.

Print the final, color version to complete your card. The results you get with Print Shop won't put Hallmark out of the greeting card business, but creating and personalizing a card shows you care enough to put time and thought into it.

BY TOM HANCOCK

It's easy to change text and fonts in a layout regardless of what it starts out with.

Ouick Studies Troubleshooting PowerPoint 2007

Fix Frustrating Interface Setups

Presentation

Beginner

2007 for WinXP/Vista

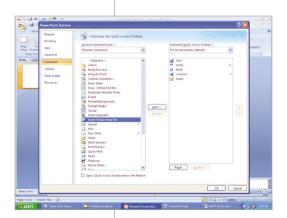
nterface changes are always a mixed blessing in I ntertace changes are arways a surface software. (Some would debate the "blessing" part.) Unless you sit around dreaming about the day that someone scrambles all the gauges on your car's dashboard, you probably aren't thrilled with facing the learning curve of PowerPoint 2007's new interface. We'll help you get more comfortable in the new PowerPoint 2007 neighborhood by showing you how to arrange it your way.

Adjust The Quick Access Toolbar

You've probably never heard of the Quick Access toolbar, but it's a feature you should get to know. It's the small bar that sits by default in the upper-left corner of the window with the Save, Undo, and Repeat buttons, and it represents your primary option for customizing your access to PowerPoint's commands. If you used to fiddle around with PowerPoint's menus and toolbars to put something like the spell-check feature in easier reach, you'll be doing that fiddling with the Quick Access toolbar from now on.

You can easily add a few of the most popular buttons to the toolbar by clicking the Down arrow

> next to the toolbar and choosing commands from the list. (We think the Open and Spelling functions are obvious choices.) To really strengthen the toolbar, click the arrow and choose More Commands. Now you can select from scores of available functions. Just remember that adding



Put your favorite functions within easy reach by adding them to the Quick Access toolbar.

numerous buttons to the Quick Access toolbar is probably unnecessary; you'll likely only use a few.

Another option is festooning the Quick Access toolbar with commands from the Ribbon tabs. Right-click any command, such as the Word Art button on the Insert tab (in the Text section) and choose Add To Quick Access toolbar.

If you'd rather keep all these buttons closer to the action of the main window, you can click the arrow next to the toolbar and choose Show Below The Ribbon.

Reach Favorite Folders Faster

Most of us save our work in a small selection of folders, and it's almost always more specific than My Documents. You can eliminate a few steps each time you save a new file (or perform a Save As) by adding a shortcut in the My Places bar. This is the collection of icons you see on the left side of the Save dialog box. It normally includes icons for My Documents, Desktop, etc. To add a handy link to a folder, choose the Office button and Save As and then navigate to the folder for which you want a shortcut. Then right-click at the bottom of the My Places bar and choose Add '<name of folder>.'

You can delete the link at any time by rightclicking it and choosing Remove.

Reach Favorite Files Faster

You already know that you can quickly access Recent Documents under the Office button. This list turns over constantly, knocking old files off the list in favor of more recently used ones. Did you know you can keep a frequently used file there all the time? That's why there's a little push-pin icon by the name of each file on the list. Click it to "pin" a file to the Recent Documents list. As you open more files, your "pinned" file slides to the bottom of the list, but never slips off. It's a great way to access files you use often, but not regularly enough to keep them on the Recent Documents list.

Minimize The Ribbon

We don't expect you to tamper with the Ribbon much anytime soon. You'll probably want to see all of it until you start learning where your favorite commands are located. But as you start memorizing what tools each tab holds, you can reduce the Ribbon and free up a bit more workspace on the screen. Click the drop-down arrow on the Quick Access toolbar and then choose Minimize The Ribbon. It shrinks to just the tab names. (You can do the same thing by double-clicking one of the tabs.) When you click a tab, its lineup of tools appears. To restore the Ribbon, right-click the Quick Access arrow again and choose Minimize The Ribbon again or double-click a tab again.

BY TREVOR MEERS

Quick Studies How-To

Browser

Corral Web Tots With Glubble

Firefox

Beginner

ike the world itself, some aspects of the Web aren't exactly suitable for children. Web filters have been on the software shelves for a while, but there's no reason to lay out cash to put some limits on the Internet.

Glubble, a free Firefox extension, locks your browser to all but a small, selected list of Web sites. Parents or caregivers can add to the list of approved sites on their own or approve requests from the lil' users. The result is a Web restricted to only the sites you want the kids to see.

Some might say such a program is a waste of time when kids can so easily subvert filtering pro-

> grams. It's true that many schoolkids know the ins and outs of their family computer better than the grownups. For the slightly older age group, keeping the computer in a hightraffic corner of the house might be the only way to keep tabs on viewing habits. Glubble, however, is aimed at members of a younger demographic

Glubble locks your Web browser so that kids will be able to view only sites approved by parents.

1 () ()

world

who don't yet know that Mom and Dad can be defeated. Of course, it's a good idea to keep an eye on the younger users, as well, because trouble is never more than a few clicks away. Glubble can at least help to set some boundaries.

Get Glubble

To use Glubble, you'll need to use Firefox. If you're a fan of Internet Explorer, both browsers can coexist on your computer, but that means that any child old enough to know Internet Explorer exists will be able to defeat Glubble simply by opening the other browser.

Download the software at www.glubble.com. Install the extension, restart Firefox, and make your way through the setup screens to create a controller account for you and a user account for each child.

The next time you launch Firefox, it opens to a Glubble screen with the words "Firefox Is Locked" at the top. None of the usual Firefox toolbars can be found. The only option is to click one of the account buttons and enter the correct password. For now, sign in under a child account

you created. Click Start to proceed. The browser will quickly restart into user account mode.

When kids log on, they see a main Glubble page with icons and two search tools: Google and Yahoo!. Kids can enter searches here, but the results will be limited to sites approved by Glubble. Most searches return no results at all, making the tools a little bit better than useless.

The main part of the page consists of icons leading to various Glubble-approved sites. If kids want to see something other than these pages, they will need to click File, choose Open Location, and then enter the address of the site. Glubble requires that any new site be approved by the controller, which you can do in the upper-right corner of the child account screen or next time you sign in under your own ID. After you approve a site, it can be viewed by that user in future browsing sessions.

When you log in with your controller account, you'll see Firefox just as you remember it, with all of your bookmarks and other customizations. If any of the younger users have requested access to specific sites when you weren't around, you'll see a list of those right off the bat, with the option to accept or deny. You can also click the new blue button in the main toolbar to open the Glubble Management screen. After choosing one of the child usernames, you'll be able to see all of the sites approved for that user, as well as add or delete sites.

Site Selection

We were surprised to see in the Glubble Management screen so many sites preapproved for viewing by little Glubbles. Most of the sites with icons built into the main Glubble page, in fact, were not blocked, even though we never gave them the "green light." All of the preapproved sites are kid-friendly, although many might be objectionable on one ground or another by some parents. Most of them linked to commercially oriented sites hoping to hook kids on various toys and cartoons. Be sure to check out the main account management section to make sure you agree with Glubble's preselected choices.

Overall, Glubble provides an interesting way of keeping kids within known parameters on the Web, to the extent that's possible. ■

BY ALAN PHELPS

Online

Type Documents Online With Zoho

Zoho

Beginner

nline word processor Google Docs gets a lot of attention because of the Google connection. Google Docs' integration with Gmail and other tools is great if you happen to use some of those ubiquitous Google applications. If you don't, however, online typing is not limited to the Big G.

Zoho Writer is one of a suite of online applications you can use free at www.zoho.com. Zoho Writer is simpler than traditional desktop word processors, such as Microsoft Word, but it is by no means clunky or incapable of useful work. Many everyday documents can be adequately produced with Zoho, and the fact that it lives online means you can access the program and your files from any computer with Internet access.

Familiar Feel

Zoho works like most any other word processor, and most people should be able to get started

> without problems. To try it out, register for a username at the main Zoho site and click the Zoho Writer icon on the main page.

> The Zoho editing screen features a view of your document topped by standard-looking toolbars. The buttons resemble buttons in any other word processor. You won't see the more advanced commands that fill up Microsoft Word's overflowing menus, but

basics such as font, text size, bold, italic, underline, and the rest are well represented. Being an online application, Zoho also includes a variety of HTML (Hypertext Markup Language) commands.

Zoho attempts to close the gap with traditional desktop word processors by using Google Gears, which makes it possible to read Zoho documents even when you can't connect to the Internet. Oddly enough, as of this writing, Google Documents had not yet caught up with Zoho on this score. Zoho's lead is small at this point: You cannot yet edit documents when offline, although Zoho promises that capability will come soon.

To save your document, click the Save button and enter a name. The document then appears in the column on the left side of the screen. It's saved on Zoho's servers, so it will always be available when you log in to Zoho from any computer.

Share It

Since you're already online, it's easy to share Zoho documents with friends or colleagues. The Share link near the top of the editing screen brings up a small window where you can enter the email addresses of those who might be interested in your work. You can choose whether others can only read the document or edit it, as well. For wider audiences, there's the Publish command. From there, you can upload your document to a blog or save it with a unique URL that anyone can access.

Not everyone wants to read or edit your work on the Web, so Zoho includes an Export command to save documents in other file formats, including Word, Rich Text Format, and PDF (Portable Document Format). This is also important if you need to add additional formatting that Zoho's simple commands don't cover.

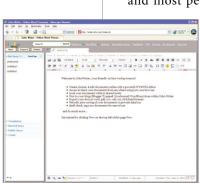
All Together

The Zoho home page offers an impressive array of other applications that, like Writer, run in your browser. Similar to Google, Zoho includes a spreadsheet application called Zoho Sheet. Zoho Notebook, like its Google equivalent, gives you a convenient place to collect text, images, and other content from around the Web and share it with others. Zoho also adds a presentation program for making slideshows; a customizable wiki to build shared online information repositories; and a planner, among other programs and utilities.

Zoho is not the only alternative to Google Documents. ThinkFree (www.thinkfree.com) offers a Microsoft Word-like look and more formatting functions than either Google Docs or Zoho, but it tended to be slower in our tests. If you don't mind spending 99 cents a month, gOFFICE (www .goffice.com) also produces nice documents. Ajax-Write (us.ajax13.com) is part of an interesting suite of Web-based applications, although we encountered some annoying bugs when we used it. It also requires that you use Mozilla Firefox.

It might be a while before Zoho or any of its competitors even approaches traditional desktop applications for serious word processing. For simple documents, however, Zoho is convenient, relatively quick, and worth a look.

BY ALAN PHELPS



Zoho provides an entire free suite of office programs online, which you can access from anywhere through a Web browser.

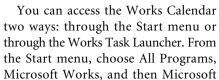
Microsoft Works 2006

Start Off Right With The Calendar

Office Suites Beginner 2006 for Win98/ 2000/Me/XP

aybe you haven't always been the most orga-IVI nized person, and you're looking for a simple way to keep yourself on track with appointments, events, etc. You could lay out the cash for a complicated personal information manager, but if you'd like to keep it simple and inexpensive, look to Microsoft Works. Its built-in calendar has what most people need to stay on top of things.

Dialog Boxes



Works Calendar. Otherwise, if you already have the Task Launcher open, click Programs at the top of the window, choose Works Calendar from the list in the left panel, and click Start The Calendar.

Works may prompt you to choose this applica-

tion as your default calendar. If you're not already using another program, click Yes. If you want to check out Works' features before deciding, check the box marked Always Perform This Check When Starting Works Calendar and click No. Now you can peruse the program, and Works will offer you this option again.

If you've been using your

Works Address Book to add contacts and their personal information, Works may produce a dialog box regarding birthday or anniversary dates in your Calendar that don't match those in your Address Book. You can choose to update that information now or later. Click Yes or No to move on.

Calendar Views

With the dialog boxes out of the way, you can get a full look at the Calendar. Along the top is a Menu bar and toolbar like those you've seen in other Works applications. Most buttons are selfexplanatory, but if one completely confounds you, place the pointer over its icon to reveal its function.

The buttons you're least likely to be familiar with are the three with grid icons. These represent the different ways you can view the calendar: by Day, Week, or Month. Different views serve different purposes. Week view, for example, is useful when you want to see how busy you are with deadlines and appointments, while the Month view offers a look at upcoming events such as holidays and birthdays. The Day view offers the easiest way to see an hourly list of scheduled appointments. Click the button that corresponds to your preferred view.

Add Items

You can add appointments and events to your calendar. An appointment is an activity that takes place at a specified time, such as a conference call on Tuesday at 10 a.m. An event, on the other hand, is not tied to a particular time, but instead takes place for an entire day or over several days, such as a federal holiday or your winter vacation.

To add an appointment to your calendar, click File and New Appointment. Works opens the New Appointment dialog box and prompts you for information, such as title and location. In the Title box, type a name for the appointment. Under When, select the appointment's start and end times and dates. You can select the Time field to enter any time frame. There's also a place to type a note. Click OK when you're done.

You can also enter appointments directly from the calendar. Just click the New Appointment button on the toolbar (represented by a calendar with a red square) or right-click the appointed day and choose New Appointment from the Quick-Menu. You can also double-click a day or time slot on your calendar to add a new appointment.

Adding events works the same way. Open the New Appointment dialog box and add the title. Instead of selecting specific times in the When section, select the day for the event and place a check mark next to All-Day Event. Click OK. In the Day view, you can add an event by typing the name of the event in the Click Here To Add An All-Day Event box at the top of the appointment list.

Whether you're tracking conference calls or birthday parties, Works Calendar makes it easy to manage your information. Next month, we'll move on to adding reoccurring events and reminders.



Works prompts you to make its calendar your default application.



Add notes to your appointment entry.

BY ANNE STEYER PHELPS

WordPerfect Office X3

Import Data To WordPerfect MAIL

Intermediate Win98 SE/2000/XP/ Vista with

cape cape 4 v Address Book

WordPerfect

Mail imports

from several

popular email

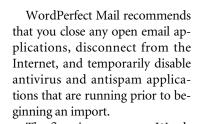
applications.

update

Office Suites

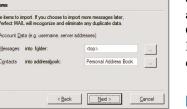
f you're using another email client, you'll likely want to import data from that application before you can really start using WordPerfect Mail. You may choose simply to import the contents of your address book or go the whole nine and import account settings, folders, and messages.

Get Started



The first time you open Word-Perfect Mail, the Import Wizard prompts you to import data from another email application. The options include Netscape, Microsoft Outlook, Outlook Express, and Eudora. You may also import from Vcard, Mbox, iCalendar, and CSV. If

> you know the source application, choose it from the Import List and click Next. Otherwise, press Cancel—you can relaunch the Import Wizard from within the email client itself later.



Next > Cancel

Import Wizard

Choose precisely what data you want to import and to where.

Let's walk through importing data from Outlook Express, so you can get a feel for how this works. Select Outlook Express from the list and click Next. The Import Wizard moves to the next screen in the dialog box: Select Identity. Here, WordPerfect Mail will copy and import the settings, mail, and contacts from the Main Identity in your PC's Outlook Express. If yours is not the Main Identity, you may choose an identity from the Import From dropdown box. You can also click the second option— Browse To Select The Outlook Express Datastore Folder That You Would Like To Import Fromand then click Browse. Identify the folder, click OK, and upon return to the wizard, click Next.

Now choose which types of data you want to import. The three options are Account Data, Messages, and Contacts. You may pick any or all. If you select Messages and/or Contacts, you'll need to specify additional information; place a check in the

Messages box and then select a folder from the corresponding field into which those messages should be copied. Click the button with the ellipses to see your choices (Inbox, Drafts, Outbox, Deleted, and Filed) displayed in the Select Folder dialog box.

You can create a new folder named "Imported" or something similar so you can easily organize them later. Simply click New Folder in the Select Folder dialog box. This opens another dialog box: New Top Level Folder. Here you'll name the folder and choose whether it should stand alone or be stored in an existing folder. Beneath these options are two display settings to decide upon. Place a check mark in the corresponding box if you want to show a count of messages or if you want the application to remember the last selected message each time you enter that folder. Click OK to return to the previous dialog box, click OK again to get back to the main wizard window, and click Next.

Complete Import

The wizard's last screen is Complete Import, and it takes a moment to give you some last words of caution and comfort. The main points to take away: This is only copying, so your source data will be fine; instead of surfing the 'Net while the import happens, grab a magazine or something because using the Internet might interfere with the process.

When you're ready, click Import Now, and WordPerfect Mail starts importing your data. The Status dialog box opens so you can monitor the progress. When the import is complete, you'll see your contacts in the WordPerfect Mail Contacts list, your email account up and ready in Accounts And Aliases, and/or your folders and messages in Mail, depending on what you chose to import.

The final step before reconnecting to the 'Net and shooting off some emails: Restart any antivirus and antispam programs you shut off earlier.

The Last Word

If you need to cancel the import before it's complete, don't worry—you can return to the wizard (go to the File menu and choose Import) and import with the same parameters. WordPerfect Mail knows to pick up where it left off.

BY ANNE STEYER PHELPS

Excel 2007

Creating Tables, Part II

Spreadsheet

Advanced

2007 for Windows XP/Vista

ast month, we introduced you to Excel's new Tables feature. This month, we'll look at Excel's tools for adding up the values in tables and for customizing the tables' looks. (Use last month's column to create a table and follow along.)

Total The Numbers

The gateway to a lot of table controls is the Ta-

ble Tools tab, which appears above the Ribbon when you click inside a table.

One of the tab's functions for manipulating data is Total Row in the Table Style Options section, which makes it easy to add up various parts of the table by criteria you select. Check this option to

insert a row at the bottom of your chart that's ready to perform operations on the values in the column above. Click a cell in the Total row, and you'll see a drop-down arrow. Click it to select different mathematical functions for the Total cell, including Sum, Average, Max, and more.

Click More Functions to open a list of additional options. They include choices such as the handy COUNTIF, which counts a value only if it meets certain criteria, such as exceeding 25. If none of the functions in the basic or extended lists meets your needs, type in your own function using the Formula bar above the worksheet window.

Calculated Columns are another fast option for performing row-by-row functions on data. Start by right-clicking a column and choosing Insert and Table Column To The Left or Table Column To The Right. Now use the Insert Function button to enter a function (such as a SUM function that adds up a row's cells) into one of the column's cells. Once you select OK, Excel automatically inserts the same formula into every cell in the column (filling in those both above and below the active cell), adjusting the references appropriately for each row.

You can also break the consistency of the Calculated Column. Let's say you want the average of a row's values rather than their sum. Go to the cell and select the AVERAGE function via the Insert Function button. When you click OK, Excel will switch all the cells in the Calculated Column to AVERAGE formulas. Click Undo on the Quick Access toolbar (located next to the Office button) to restore everything except the altered cell to the SUM formulas. Excel marks the cell that differs from the rest with a small triangle tab. Clicking the cell produces a warning drop-down list where you can choose to ignore the "error" or switch it back to conformity with the other cells.

Format Tables

The Table Style Options section of the Table Tools tab includes a few checkboxes that quickly alter the look of your data. Click Banded Rows or Banded Columns to add a striped look that makes it easier to follow lines of data in large tables. The First Column and Last Column checkboxes have similar jobs, since they add shading to the appropriately named columns so they're easier to spot.

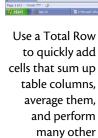
The tab's Table Styles section offers a selection of designs you can quickly add to the entire table. They vary mainly in the color and amount of shading they add to the columns and rows, but some include other subtle changes such as whether you can see the gridlines dividing cells. With Office 2007's Smart Preview feature, you can instantly glance at how your table would look with the altered formatting. Just click inside the table and rest the cursor on one of the styles shown on the tab.

Of course, you always can format individual cells and other parts of the table using the Home tab's options for fonts, colors, and cell styles.

Leave The Table

If you decide that you liked your data better as a regular range of numbers, you can turn it back into one by clicking a cell inside the table and then clicking the Table Tools tab. Click Convert To Range in the Tools portion of the Ribbon. (You can do the same thing by right-clicking within the table and choosing Table and Convert To Range.) The table loses its sorting capabilities but retains the colored formatting you've applied.

BY TREVOR MEERS



functions.

Corel Paint Shop Pro Photo XI

Create A Photo Invitation

Image Processing

11 for Win2000/XP/Vista

In Paint Shop Pro

can use a Picture

Frame to blend a

Create a unique,

eye-catching

Photo XI.

invitation with

Paint Shop Pro

photo into an

invitation.

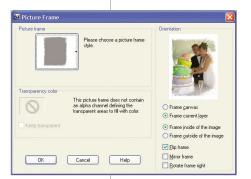
Photo XI, you

Advanced

n invitation is more than simply an an-A nouncement detailing an event; it also sets the atmosphere for your gathering. You can make a great first impression by creating your own photo invitation with Paint Shop Pro Photo XI.

Step 1: Determine The Invitation Basics

Launch PSP Photo XI and choose File and New.



In the New Image dialog box, select the desired values from the Width and Height drop-down menus and select Inches from the Units drop-down menu. Leave the default value of Raster Background and Color Depth and then click OK. This creates the invitation template.

Step 2: Add The Photo

Now you'll select the photo that will get recipients excited about your event. From the File menu, choose Open and browse your hard drive for the photo you'd like to use. This will open the photo in a separate window. We'll work with this photo before copying it onto the invitation as a new layer.

You may wish to make several edits to the photo.



We'll assume that you've already adjusted the exposure, saturation, color balance, and the like-if not, you can do so automatically via the Adjust menu's One Step Photo Fix tool. You can add a border to the photo by selecting Image and Add Borders, but we're going to spice it up by using one of PSP's funky picture frames.

From the Image menu, select Picture Frame. In the Picture Frame dialog box, use the Picture Frame drop-down menu to choose a style that suits the mood of your event. We recommend you select a frame that has a rough border rather than a straight-edge one, so that the photo blends into the invitation instead of appearing as a separate element. Once you've made your decision, click OK.

Another neat feature you can add is an effect, such as bubbles, sepia tones, or turning a color photo into a black-and-white photo. To do so, go to the Effects menu and choose an appropriate effect. It's easiest to do this before you select a Picture Frame because you want the effect to apply to the photo layer rather than the background picture frame layer. But if you're familiar with working with the Layers palette, you can add the effect after you add the picture frame.

Merge all your changes into one image by selecting Layers, Merge, and then Merge All. From the Edit menu, select Copy. Click the invitation template and select Edit and Paste As New Selection. Drag and drop the photo to the location you wish. (NOTE: If the photo is too large or too small, you may wish to resize it via the Image menu *before you paste it onto the invitation template.*)

Step 3: Add The Text

From the Tools toolbar, select the Text tool and click the image approximately where you'd like to place the text. In the Text Entry dialog box, enter the invitation text. Your text can be as eye-catching as your image; simply use the Tool Options palette to change fonts, size, style, and other text attributes. You can even use the Materials palette to create colored text. Click Apply when you are finished.

To change the location of the text, place your pointer in the middle of the text layer, and when it turns into a four-headed arrow, drag the text layer to the correct spot. To change the size of the text layer, place the pointer on any of the corner nodes and drag (to keep proportions), or place the pointer on the top, bottom, or side nodes (to change the height or the width only). You can also edit text by right-clicking the layer and selecting Edit Text from the context menu.

Step 4: Save The Invitation

From the File menu, select Save. If you'd like to edit the image later, save it as a PSPImage file. But if you're ready to print, save it as a JPEG and confirm that you'd like to merge the layers. Then print, mail, and sit back as your guests' compliments on your unique invitation roll in.

BY HEIDI V. ANDERSON

Secrets For Succeeding In Common Tasks

BY STEPHEN J. BIGELOW

Printing

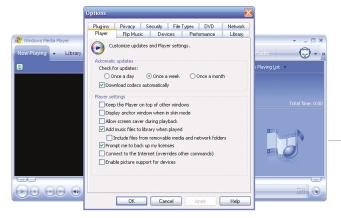
Question: How do I keep my glossy color photos from sticking together after I print them?

Answer: This is a common problem with photo printing and any other type of printing on glossy or coated papers. The ink simply doesn't have enough time to dry, and the wet ink is "gluing" pages to the back of subsequent pages—usually ruining both in the process.

The easiest solution is to just remove photos or pages as they're being printed and separate them onto a flat surface for several minutes to dry before stacking them. Of course, this requires your constant attention during the print job. Another option is to select papers that are specially coated to absorb inks and dry quickly. Just remember that using a different paper type may not give you the finish or long-term colorfastness that you want.

Windows Media Player

Question: I watch a lot of video clips and other media with Windows Media Player. How can I keep WMP on top of all my other applications?



Answer: In WMP 10, click the small downward arrow located just to the left of the Minimize button. Highlight Tools and click Options from

> the context menu. (In WMP 11, rightclick the title bar and then select Tools and Options.) Click the Player tab and select the Keep Player On Top Of Other Windows checkbox. Click Apply and OK to save your changes. Now the player should remain in view on top of all other applications.

You can easily change Windows Media Player settings to keep the player on top of all other applications.

Passwords

Question: How can I force my PC to ask for a password after periods of inactivity?

Answer: There are a couple of options available to

you. First, you can force a password when your computer resumes from a screen saver. Simply right-click anywhere on the Desktop and click Properties. Click the Screen Saver tab and select the On Resume, Password Protect checkbox. Click Apply and OK to save your changes. Now, when the PC resumes from its screen saver, you'll need to enter the regular Windows password to access the Desktop.

Themes Desktop Screen Saver Appearance Settings Settings Preview Wait: 10 🚭 minutes 🔲 On resume, password protect Power... OK Cancel

A second option is to require a password when returning from the Standby power-saving mode. First, click Start and Control Panel and double-click Power Options. Click the Advanced

> tab and select the Prompt For Password When Computer Resumes From Standby checkbox. Click Apply and OK to save your changes. Now, when the PC comes out of Standby mode, you'll need to enter the regular Windows password to access the Desktop.

You can configure the screen saver to require a logon password each time the screen saver exits.

Power Options

Question: My PC is always dropping into Standby Mode, and it's very annoying. How should I set the timeouts for my system Standby and Hibernate modes?

Answer: This is an annoyance that strikes intermittent PC users that may work for a few minutes and then stop for a few minutes—just long enough for the PC to drop into Standby or Hibernate—and then start working again and

have to wait for the screen to appear and the hard drive to spin up.

It's easy to fix this issue. Simply extend the Standby and Hibernate delays. First, click Start and Control Panel and double-click Power Options. On the Power Schemes tab, adjust the delays for System Standby and System Hibernate. Use the dropdown menus to select a time that is just slightly longer than the average time that you're away from the PC. For example, if you have a tendency to be away from the PC for 15 to 20 minutes at a time, set the System Standby to 25 or 30 minutes. For the System Hibernate entry, choose a time delay that clearly indicates a time during which you're not using the machine. For example, if you're never away from the PC for more than 45 minutes during a typical afternoon, select a hibernation delay of one hour, so the system should

> never normally hibernate during the day but will drop into Hibernate Mode in the evenings. There is no single correct setting for everyone, so feel free to experiment and find the combination of settings that are best for the way you work.

Set the Standby and Hibernate delays so that they are most compatible with your particular work habits.

es Advanced Hibernate UPS

Optical Mice

Question: Do I need to clean my optical mouse?

Answer: Optical mice have significantly reduced the amount of needed maintenance but have not eliminated the maintenance demands entirely. Dust, pet hair, and other debris can still accumulate on the bottom of the mouse housing and interfere with

the laser/receiver. Look at the bottom of the mouse, make sure that the optical window is clear, and wipe away any accumulations of debris from the contact pads that the mouse slides on. In most cases, a clean, dry paper towel is all that you need to keep the optical mouse clean, and you should only perform this cleaning as needed.

Question: How can I tell which wireless security Wireless standards my router is capable of? Security

> **Answer:** The documentation that accompanied your wireless broadband router should explain the security protocols available in that particular model. But if you don't have that documentation handy, you can always check the router directly. Let's use the Linksys Wireless-N Gigabit Router WRT350N (\$179.99; www.linksys.com) as an example. The WRT350N's default IP (Internet Protocol) address is 192.168.1.1. Open a

browser window and enter the router's IP address. Enter the username and password that you selected during installation. Now you should see the router's Web-based management utility. Select Wireless and Wireless Security and use

the Security Mode drop-down menu to see a list of all the security modes that this router is capable of supporting.

You should choose the best security standard that is supported by all of your wireless devices. Security standards are not interchangeable or backwardcompatible, so it may be necessary to upgrade or replace some of your older wireless devices so that they will provide at least the minimum level of support. Also, remember that if you change the security protocol on your router, you'll also have to

> reconfigure all of your wireless devices to match that protocol and encryption key.

A quick check of the wireless broadband router will reveal the various security options that the unit is capable of supporting.



idbits

Compiled by Nathan Lake Graphics & Design by Andria Cogley

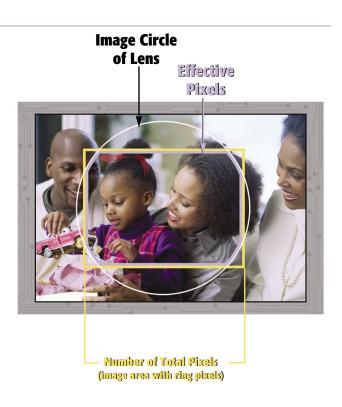
Uncover The Megapixel Mystery

Get To Know Your Digital Camera

hen shopping for a new digital camera, a number of different specifications will be listed, but you can be sure that the camera's MP (megapixel) rating—the number of pixels its image sensor uses to capture an image—will be listed at or near the top of the product tag. In this article, we'll examine the inner workings of digital cameras to show you how the pixels on an image sensor can influence image quality, as well as the different methods that image sensors use to capture light.

Effective Pixels vs. Total Pixels

If you compare the number of pixels in your images (multiply the number of horizontal pixels by the number of vertical pixels) to the MP rating of your digital camera, the two numbers may not be equal. Megapixel discrepancies can occur when a digital camera lists a total pixel rating, rather than the number of effective pixels. In order to understand the difference between the total and effective pixel count, it's important to know that not all the pixels on an image sensor actually capture the light allowed in via the lens. On most image sensors, a ring of pixels is dyed black to temporarily store the readings from the light-capturing pixels and set the black level for the image. And in some cases, the circle of light that a digital camera's lens allows to reach the sensor is smaller than the lightcapturing area on the sensor. The total pixel count can be misleading because it includes pixels that are never used in the final image, whereas the effective pixel rating only counts the pixels that actually capture light.



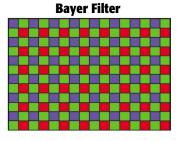
Types Of Image Sensors

Digital cameras almost exclusively feature either a CCD (charge-coupled device) or a CMOS (complementary metaloxide semiconductor) image sensor. Both image sensors are silicon chips covered with thousands of light-sensitive pixels. A few years ago, CCDs were believed to deliver better image

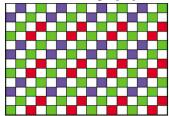
quality and were used in most high-end digital cameras, but today the line is blurred, as CCD and CMOS image sensors are equally available in both low-end and highend digital cameras.

The Color Filter Array

CCD and CMOS image sensors are colorblind. To distinguish color, a CFA (color filter array) separates red, green, or blue light into each pixel, and the digital camera's processor interpolates the color data using a sophisticated imaging algorithm to create the appropriate color image. Nearly all modern digital cameras use the Bayer pattern, a filter mosaic that's 50% green, 25% red, and 25% blue, to reflect how humans see light. However, Kodak recently announced a new CFA called the Hamilton-Compton pattern that adds panchromatic (clear) pixels to the Bayer pattern. The panchromatic pixels capture a black-andwhite portion of the image, and the image sensor then combines the panchromatic image with the merged color pixels. Kodak indicates the pattern should capture a higher percentage of light, resulting in better-quality images in low-light conditions. Digital cameras using the Hamilton-Compton pattern should be available sometime in 2008.



New Kodak Imagery System



Hamilton-Compton Pattern

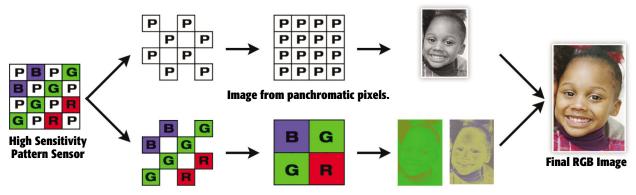


Image from red, green, and blue pixels.

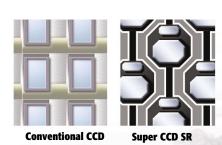
Megapixel Myth

A common misconception is that resolution is a measure of image quality, but rather than clarity or detail, the MP rating determines the size of photo you can print without reducing the sharpness or quality of the image. Because many other variables can affect the quality of your images, such as the lens' optics and the camera's image processing engine, it's important to consider more than just the number of pixels.

For instance, all CCD image sensors feature an ADC (analog-to-digital converter) that transforms analog light readings into digital data, and the accuracy of the color in your images is partially dependent on the number of bits utilized by the ADC. A 10-bit ADC can create up to 1,024 shades of color, a 12-bit ADC can generate 4,096, and a 14-bit ADC could create 16,384 possible shades.

Pixel Configuration

Traditionally, the pixels on an image sensor are rectangular photo receptors arranged in a grid pattern, but this configuration isn't the only one available. FujiFilm manufactures a Super CCD image sensor that features octagonal pixels arranged at 45-degree angles. According to FujiFilm, the Super CCD design currently in its fifth generation and titled Super CCD HR—improves the reception of light and extracts more resolution from the pixels than the standard grid pattern. Building upon the Super CCD, FujiFilm also manufactures Super CCD SR image sensors that place two pixels—one large and one small—in every photo receptor. The large pixel captures bright light, and the small pixel registers darker light. The digital camera combines the two pixels together, which FujiFilm suggests improves the camera's ability to capture detail and dark or light highlights.



What To Do When.

Your PC Boots Up In Safe Mode

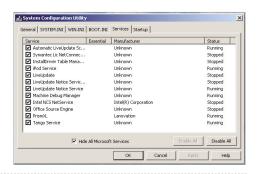
hile it's hardly the Blue Screen Of Death, no one wants to boot up her computer and see that the PC is automatically running in Safe Mode, either. (If you're in Safe Mode, the icons, toolbar, Start menu, and other graphics will be enlarged and on a black Desktop with the words "Safe Mode" in the corners of the screen.) This is usually a sign of problems within your system. Windows may automatically boot in Safe Mode if attempts to boot normally fail. Booting in Safe Mode is Windows' way of telling you that you need to troubleshoot the system in a safe environment.

Try the following remedies to get your system back in sync and into normal mode at startup.

Check Recent Additions

One of the most likely explanations for an auto launch of Safe Mode is a problem with

Hide the Microsoft services that start when you boot your system and then individually test the rest of the services listed in the System Configuration Utility.



Possible sources of the Safe Mode startup problem are the SYSTEM.INI and WIN.INI files, which contain configuration information for your computer.





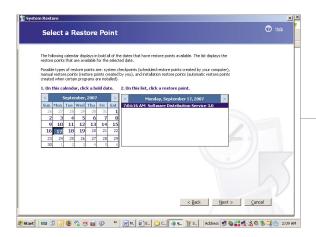
one or more device drivers. These small programs, which control communication between hardware devices and Windows, always load when you turn on your PC. If one or more is flawed or not working properly, Windows might launch into Safe Mode because Safe Mode doesn't load all of the device drivers installed on your system.

Thus, if you've recently added a new program to your system or added new hardware, which required the installation of new drivers, that could be the source of the Safe Mode launch.

One solution is to uninstall any new drivers or programs and then restart your computer. The most efficient and thorough way to check device drivers is through the Device Manager. Right-click My Computer, choose Manage, and then click Device Manager. Click the plus (+) sign next to the group of drivers you want to check. Right-click a driver from the list that is displayed and then choose Properties. The Device Status section will indicate if the driver is working properly. If it isn't, click the Troubleshoot button to launch a wizard that will walk you through the steps of figuring out the problem. Or, back on the Properties screen, click the Driver tab and choose either the Update Driver option (if this is for an older hardware piece) or the Uninstall Driver option if it's for a recently installed piece of hardware.

Disable Auto-Start Features & Programs

As much good as they do in protecting your system from external threats, AV (antivirus) programs are also good at clashing with other programs on your system, even Windows itself. An



AV program usually has an auto protect feature that launches at startup.

You could uninstall the AV application to see if this is indeed the source of conflict, but that would leave your system too vulnerable. Instead, first use the System Configuration Utility to look at everything that launches when you boot your computer.

Click Start and Run, type msconfig in the Open field in the Run box, and click OK. (Vista users, click Start, All Programs, Accessories, and then Run.) On the Startup tab, look for your AV program (or the part of the program that runs at startup) and clear the box next to it. Click OK and then restart your computer.

If your system still returns to Safe Mode, then open the System Configuration Utility again. Go to the Services tab and click the box next to Hide All Microsoft Services at the bottom of the screen. This will remove all services published by Microsoft

ⓑ 🗷 🗗 🎒 🙎 🤏 🗶 ? x General Driver Standard 101/102-Key or Microsoft Natural P5/2 Ke 🏄 Start | 🙉 🎜 🧿 🕲 😘 🐽 👜 🤛 🔌 🛗 w38s12.doc - ... | 📆 2 Microsoft... - | Address 💆 🗞 📑 👼 🔏 🔍 💆 📜 💆 8:33 If no other troubleshooting measures work, use the System Restore tool to roll back your computer to a time before the Safe Mode dilemma appeared.

and give you a shorter list with which to work.

On the new list, uncheck items one at a time. Start with the item that you most recently added to your

system. Restart your system each time you uncheck an item. In this way, you can eliminate services one at a time as the source of the problem.

If none of these services appear to be the source of the Safe Mode problem, uncheck the box next to Hide All Microsoft Services and begin to eliminate those items, one at a time, as the source of the problem.

Check System Files

If the Safe Mode problem persists, users of WinXP and earlier should reopen the System Configuration Utility. On the General tab, click Selective Startup. You'll see four checkboxes, in addition to the Use Original BOOT.INI checkbox, which you cannot uncheck. The four checkboxes are: Process SYSTEM.INI File, Process WIN.INI File, Load System Services, and Load Startup Items.

Since you've already investigated the startup items and services as the pos-

> sible source of the problem, keep both Load System Services and Load Startup Items checked. Also, leave Load System Services checked because, when you use this tool, you clear almost all of the items

Use the Device Manager to troubleshoot, uninstall, or update drivers.

listed on the Services tab at once, and you erase any restore points you may have created with the System Restore tool (more on that later). Uncheck these boxes only as a last resort.

The SYSTEM.INI File and WIN. INI File contain basic information for the configuration (or settings) for your system, such as your wallpaper, screensaver, and fonts. The information stored in these files is also stored in your Registry. A corruption in either file could be the cause of your startup problem.

Look at the tabs of the same name in the System Configuration Utility. As you did with the startup items, you can go to these tabs and investigate the items individually to rule them out as the problem. Or you can uncheck SYSTEM.INI File, and then the WIN.INI file, to rule out these files as a whole as a source of the Safe Mode problem.

Roll Back With System Restore

If you can't figure out which file, driver, or program might be the cause of the problem, use System Restore to roll your PC back to a Restore Point, a previous, saved point on your system when everything was working properly. Click Start, All Programs, Accessories, System Tools, and then System Restore to get started. When the System Restore dialog box appears, select Restore My Computer To An Earlier Time and click Next. Click a Restore Point, click Next, and click Next again. Vista users can access System Restore by clicking Start, typing Restore in the search box, and then clicking System Restore.

This process will return your system to a time before your computer loaded in Safe Mode and should solve your problem. If you decide to reinstall items that were eliminated during the System Restore, do so with caution as this might reintroduce a troublemaker into your system. II

BY RACHEL DEROWITSCH

Problem. After updating his Norton Antivirus software, a reader receives an error message each time he starts his computer. When he tries to close the error message, it reappears several times and then eventually goes away for good. It does not appear to disrupt the computer functionality.

Error message. Windows - No Disk. Exception Processing Message c0000013 Parameters 75b6bf9c 4 75b6bf9c 75b6bf9c.

Solution. This error message typically occurs for four reasons: You have a card reader that has gone bad, a startup file associated with Apple QuickTime conflicts with something else inside your system, you've encountered a bug in Windows, or you've been infected by malware. The fact that you received the error after installing the latest version of Norton AntiVirus may be coincidence. Then again, it may not.

We recommend scanning your system for malware first. Use both an antivirus utility and an antispyware utility to check for code that doesn't belong in your PC. Fix any problems found by the utilities and reboot your system to see if the error message persists.

If it does, the next step is to disable your card reader (if you have one). A card reader is a drive that can read data from and write data to tiny flash memory cards, such as CompactFlash cards or Secure Digital cards. These cards are frequently used as a primary memory source in digital cameras, handheld computers, and cell phones. To disable the card reader, you first must access the Device Manager; open the Start menu, right-click My Computer, select Properties in the pop-up menu, and click the Device Manager button on the Hardware page of the resulting System Properties window. When the Device

Manager opens on-screen, click the plus (+) sign next to the Disk Drives heading. Locate and right-click the card reader in the list of drives attached to the computer. Select the Disable option in the pop-up menu. Alternatively, you can disable the card reader by uninstalling it, either by disconnecting it from the computer (in the case of external readers) or opening the computer case and removing the card reader from the PC (in the case of internal readers). However you disable it, reboot the computer when you are done and check for the error.

The third possible solution is to deactivate Qttask.exe, a QuickTime file, so that it doesn't load each time you start the computer. The best way to do so is by opening the Start menu, selecting Run, typing msconfig in the Open field of the Run dialog box, and clicking OK. When the System Configuration Utility appears on-screen, click the Startup tab and deselect the entry for Qttask so that it does not have a check mark next to it. Click OK to save the change. Reboot the system to see whether the error occurs again.

A fourth option for eliminating the error, if it persists, is to uninstall the Windows updates that may have introduced a bug into the system. You can uninstall the updates by opening the Add Or Remove Programs tool (accessible through the Control Panel), selecting the Show Updates option at the top of the Add Or Remove Programs window, and clicking the Remove button for each of the following updates (all are listed under the Windows XP - Software Updates heading): Security Update KB925902, Security Update KB930178, Security Update KB931261, Security Update KB931784, and Security Update KB932168. Reboot the computer when the uninstalls are complete.

As a last resort, we recommend uninstalling Norton AntiVirus and rebooting the system. If the error happens to go away, then the problem most likely involves a conflict between the antivirus utility and another part of the system. Remove all unnecessary software and data from your PC, scan the hard drive for errors, obtain the latest updates for WinXP and all major software programs on your system, and then try reinstalling Norton AntiVirus. Hopefully that will do the trick.



Problem. After upgrading to Internet Explorer 7 and installing a program provided by his ISP (Internet service provider), a reader's monitor started malfunctioning. He tried to resolve the issue by reverting to the Last Known Good Configuration and booting in Safe Mode, but neither solution worked. He now receives an error message each time he uses his computer.

Error message. RUNDLL. Error loading Newdev.dll. This application failed to start because Wininet.dll was not found.

Solution. Microsoft's latest Web browser may be responsible for your error message, but we hesitate to point the finger in that direction, at least initially. We are far more suspicious of both the monitor and the program provided by your ISP. It's likely the former has simply gone bad or the latter has introduced malicious code into your system.

Our initial recommendation is to scan your system immediately for viruses and other unwanted software. Use a reputable antivirus utility to clean your PC of anything that doesn't belong there. We also recommend running a reputable antispyware utility to eliminate all spyware and adware from your computer. If the antivirus and antispyware utilities find one or more threatening files, you should uninstall the software provided by your ISP. Reboot the system after that and see if the error persists. If it goes away, contact your ISP to let it know that its software caused this problem with your PC. The company should know about the situation so that it can publish a fix.

If the error persists, however, then you may have a malfunctioning monitor on your hands. The Newdev.dll file is associated with the Add New Hardware tool in Windows, A



misbehaving monitor could wreak havoc with this file and cause the error message you are experiencing. We recommend that you access the Device Manager—open the Start menu, right-click My Computer, select Properties in the pop-up menu, and click Device Manager on the Hardware page of the resulting System Properties window—and click the plus (+) sign next to the Monitors heading in the list of installed hardware. Right-click each entry listed here (there may be more than one even though you have only one monitor) and select Uninstall from the pop-up menu. Click OK to verify your actions and reboot your computer when the process is complete.

Next, if the error persists, turn off your entire computer system and physically disconnect the monitor from the PC. If you have a second monitor one you already own or one you can borrow from a friend—connect it to

your computer to see if you get the error again. If you do not, then the error is most likely caused by your malfunctioning monitor. You can give the old monitor one more chance by reconnecting it to your PC just to see if it works without producing the error, but we have a feeling you will need to invest in a new monitor soon.

If the error continues through the malware cleansing and monitor swap, then perhaps the problem does lie with Microsoft. Uninstall your browser, reboot the PC, and visit www.update.microsoft.com to obtain all available updates-except the IE7 update—for your system. By this point, the error should be gone. Perform some routine maintenance tasks, such as scanning the hard drive for drive errors and uninstalling all unwanted software, and then try reinstalling IE7. Your computer ought to be operating just fine by now.

Have questions about an error message you've seen? Send us your message (errormessages@smartcomputing.com), and we'll try to decipher it. Tell us what version of Windows you're using, give the full text of the error message, and provide as many details in your explanation as possible. Volume prohibits individual replies.

FAST FIXES

Update For Windows Vista

Problem: Microsoft has identified a problem in which messages may not be sent from Windows Mail's Outbox. Furthermore, in this instance, a user is unable to delete the message from the Outbox.

Resolution: Download and install a 1.4MB update from Microsoft's Web site that will resolve the problem with Windows Mail's Outbox. Go to support.microsoft.com and type KB941090 in the Search Support (KB) field and press ENTER. From the list of search results, click Messages May Be Stuck In The Outbox When You Use Windows Mail On A Computer That Is Running Windows Vista. On the resulting page, click the Update Information link. Then click Download The 941090 Package Now under Windows Vista, 32-bit Versions. This will take you to the download page for the update. Before you can download the file, though, you need to verify that you have a genuine copy of Microsoft Windows Vista. To do this, click the Continue button next to Validation Required. Follow the instructions you see on the screen to validate your copy of Windows. Once your software is validated, you'll see the download page once again. Click the Download button, which is now where the Continue button was earlier. When prompted, choose to save the file (Windows6.0-KB941090-v2-x86.msu)

In another example of the bugs in MovieFactory 6, sometimes users experienced errors when exporting MOV files to DVD.

to your hard drive. After you finish downloading the file, locate it on your hard drive and double-click it to launch the installer. Follow any on-screen instructions, and after the installation is complete, restart your computer.

support.microsoft.com

Update For Windows Media Player 11 For Windows XP

Problem: Windows Media Player 11 may have some difficulties working with shortcuts on the Windows Start menu.

Resolution: Microsoft has released an update that improves the way WMP 11 handles items on the Start menu. To download this 549KB update, go to support.microsoft.com. On the Microsoft Support page, type KB939683 in the Search Support (KB) field and press ENTER. From the list of search results, click to select FIX: Update For Windows Media Player 11 For Windows XP. On the resulting page, click Windows XP For x86-Based Computers (All Languages). Then click Download The KB939683 Package Now link under the heading Windows XP For x86-Based Computers (All Languages). You'll see the download page. Microsoft requires that you validate your copy of Windows before proceeding with the download. To do so, click the Continue button next to Validation Required. Follow the instructions on the screen to validate your copy of Windows. When you see the download page again, click the Download button. When prompted, choose to save the file to your hard drive. Locate the file you just downloaded (WindowsMedia11-KB939683x86-ENU.exe) and double-click it. Follow any instructions you see on the screen to finish installing the update. Then restart your computer.

support.microsoft.com

FIX OF THE MONTH

Ulead DVD MovieFactory 6 Patch 2

Problem: A number of small bugs exist in Ulead DVD Movie-Factory 6. For example, there were sometimes problems with the audio when exporting HD MOV files. In another example of the bugs in MovieFactory 6, sometimes users experienced errors when exporting MOV files to DVD.

Resolution: Download and install the latest patch for Ulead DVD MovieFactory 6. This patch not only fixes many of the bugs in earlier releases but it also adds several new features. For example, Ulead added several performance enhancements and a dropdown menu option to Create HD DVD On DVD Disc. To download the file, go to www .ulead.com. Click the Download menu at the top of the screen. Then click Updates Packs. Under the heading DVD/CD Creation, locate Ulead DVD MovieFactory. Click the Update link that is on the same row as Ulead DVD MovieFactory. Under Program Updates, click DVD MovieFactory 6.0. On the resulting Ulead DVD MovieFactory Updates Packs page, find the box labeled DVD MovieFactory 6 Patch 2. Click the FTP Site link inside that box. When prompted, choose to save the file to your Desktop. After the download is complete, locate the file you just downloaded, which is named DMF6_ Full_Patch2_E.exe. Double-click it, and follow the instructions on the screen to complete the installation. When the installation is complete, restart your computer.

www.ulead.com



Need help with your hardware or software? Looking for simple explanations on technical subjects? Send us your questions!

Get straight answers to your technical questions from Smart Computing. Send your questions, along with a phone and/or fax number, so we can call you if necessary, to: Smart Computing Q&A, P.O. Box 85380, Lincoln, NE 68501, or email us at q&a@smartcomputing.com. Please include all version numbers for the software about which you're inquiring, operating system information, and any relevant information about your system. (Volume prohibits individual replies.)



Online

In Internet Explorer 7, is there a way I can prevent selected cookies from being deleted? I clear out my cookies from time to time by clicking Tools, Internet Options, Delete, and Delete Cookies, but I'd like to keep the ones that hold logins for sites I use frequently.

Managing your browser cookies with Internet Explorer 7 is extremely inconvenient since it's an all-or-nothing proposition. This is one of many reasons we encourage users to try Firefox (www.firefox.com) as an alternative browser. As vocal advocates for online privacy, we don't like cookies in general, but their utility when carefully managed is undeniable. The trick is retaining the useful cookies while dumping the less "tasty."

Since Internet Explorer 7 offers us no real help, our recommendation is to use a cookie manager or utility. The one we recommend is IECookiesView from Nirsoft (www.nirsoft.net /utils/iecookies.html). IE CookiesView is an easy-to-use utility that lets you sort, find, and delete any unwanted cookies while retaining the useful ones. Best of all, it's free.



Windows

I want to run Windows Disk Defragmenter at night on a schedule. I have the program on my Scheduled Task list and the program starts at the scheduled time. The problem is that it doesn't run because it is waiting for me to hit the run button. Does Windows XP have a command-line switch that I can pass to make the program automatically run?

The simplest way to schedule disk defrag-Amenting is via a "batch" file or script. WinXP includes a new command-line defrag utility that is perfect for your requirements. Once you've created the batch file, you can add it to your Scheduled Tasks to run on a nightly basis. We'll walk you through both creating the batch file and adding it to Scheduled Tasks.

Batch files are simple scripts that list a series of sequential commands that Windows should run. To create a batch file, right-click your Desktop and select New and Text Document. You may need to double-click the document to open it. Next, enter the following text into this new document:

defrag -f c:\

Defrag is the name of the defragmentation utility, the -f switch tells defrag to defragment the drive regardless of whether it thinks it should, and c:\ is the name of the drive or partition you wish to defragment. After you've entered this text, click File and Save As and give the batch file an easy-to-remember name, appended by .bat. The .BAT extension tells Windows to treat the file as a batch file. We named ours Defrag.bat.

Next, select a location or folder to store the batch file (we created a folder on our Desktop called Batch Files). In the Save As Type dropdown menu, select All Files and then click Save.

Before you add your new batch file to your Scheduled Tasks, you'll want to test it to make sure it works properly. Using a batch file or script is easy; simply double-click the batch file, and it should start executing the defrag command. If it runs properly (meaning it launches a DOS window and begins running), skip ahead to our instructions for adding it to your Scheduled Tasks. There's no need to wait for the defrag to complete; it should be apparent from the DOS window that the command is executing. If it doesn't run properly, make sure that it matches our instructions and that you didn't make a typing error.

Once you have a properly running batch file, it's time to add it to your Scheduled Tasks. Click Start, Control Panel, Performance And Maintenance, and Scheduled Tasks. Next, double-click Add Scheduled Task. When the Scheduled Task Wizard launches, click Next and then Browse. Browse to where you saved your batch file, select it, and then click Open. Click the appropriate radio button for how frequently you want this batch file to run and then click Next. Next, set the time you want

the batch file to start and then click Next. The next menu is used if you need to run the batch file as a different user. In our example, simply click Next and then Finish. You should now see this batch file listed under your Scheduled Tasks. Check its status in a day, and it should show that it ran when you scheduled it.



Software

I have just purchased a new notebook computer that came preinstalled with a trial version of Office 2007. I'd prefer to install a copy of Office 2003 that I own, as it satisfies my needs. This software requires activation by Microsoft. What process or documentation do I need to activate it on the new machine? I tried to search the MS Knowledge Base with little success.

As you've discovered, Office 2003 in-Cludes an activation requirement to deter software piracy. Although we've never had any difficulty with activating Office 2003, there are some situations that may arise that can be troublesome.

Normally when you install Office 2003, it will automatically prompt you to activate your installation. All you have to do at this point is enter the product key that came with your copy of Office. Each product key is linked to a license that determines how many computers can use a copy of Office. For most home users, Office can only be installed on one computer at a time.

The activation process works in one of two ways: via the Internet or over the phone. You can choose either one, though online activation is usually quicker and easier. Simply enter your product key when prompted, and the installation wizard will contact Microsoft, verify the product key, and proceed with activating your copy of Office. If you choose to activate over the phone, you'll need to select this option during installation and call the number specified. The operator will ask you for your product key and will then provide you with an activation code that you'll enter into the activation wizard.

Although most methods are usually smooth processes, you can run into trouble if you've inadvertently installed or reinstalled Office too many times. In addition, if you change or upgrade too many components in your computer, the activation system may be triggered, prompting you to reactivate your Office installation. If you have any difficulty reactivating your installation, it's best to use the phone activation system so that you can explain the circumstances surrounding your installation.



Hardware

I am visiting my family and so far have had to use a dial-up Internet connection. My family has a wireless network in their office not too far away, and I'd like to try using it since that would be a much faster connection. I'm considering buying a wireless card for my Toshiba notebook, but I have no idea how to set it up, and I'm a bit concerned.

You didn't mention which model note-A book you have or the type of wireless card, but installing and configuring a

wireless connection is a process that shouldn't be too difficult, provided you have some information from your family about their wireless network.

However, before you open your packaging and start the installation process, you'll want to consider whether your plans will work. Wi-Fi networks have a relatively limited range, typically under 300 feet, and if there are any substantial obstructions between you and the network's access points, the network may be unusable. If your family members are able to use the wireless network at your location, you shouldn't experience any difficulty.

Since you didn't mention the specifics of your notebook or wireless equipment, our instructions are going to be general in nature. However, they should be enough to steer you in the right direction.

If your family's network is usable, installing your wireless adapter is relatively easy. First you'll want to read any documentation that came with the card. Most cards will come with a guide explaining how to install the card and a CD with any necessary software. The process varies among manufacturers but typically involves installing software to manage the wireless card and physically installing the card in your notebook.

Next you'll need to configure the card to access your family's wireless network. Wi-Fi networks typically have three levels of security: none, WEP (Wired Equivalent Protection), or WPA (Wi-Fi Protected Access). If there is no security present, you'll simply follow the instructions to tell the wireless card to "join" your family's network. If WEP or WPA security is enabled, you'll need to know the name of the network, as well as a password. Once you've properly entered those settings, your notebook will join the network and seamlessly connect.

Wireless networks can be intimidating the first time you use them, but ease of use has improved dramatically over the last few years. In addition, your family has some experience with their existing wireless network, so they should be able to assist you in overcoming any obstacles that may arise. Although it may seem difficult at first, the payoff will come when you can ditch that slow dial-up connection!



Miscellaneous

Every time I buy computer gear or other electronics from my local superstore, the sales clerk tries to get me to purchase an "extended service" contract or warranty. I've always said no. Am I missing out on a good deal?

Warranties can be a useful insurance A policy for protecting purchases, whether they're electronics or something else. The key is in determining their value and utility. Extended warranties can be very lucrative for merchants, so it's prudent to be cautious when offered an extended warranty or service plan.

Many extended warranties simply extend the terms of the manufacturer's warranty for a simple fee. Other warranties offer to replace (instead of repair) items that are out of the manufacturer's warranty. A third class of warranty covers accidental damage to items; this can be valuable for things such as notebook computers or digital cameras that might be dropped or damaged easily.

Before you purchase any extended warranty, you need to consider several factors. The first is the length of the original manufacturer's warranty. If it's more than a year, the value in an extended warranty drops dramatically.

The next factor is the expected lifespan of the item you're purchasing. If it's a big-ticket item

that you expect to use for five or more years, it would be a better candidate than something like a DVD player that you expect to replace in a year or two with a Blu-ray or HD DVD player.

An additional factor is the likelihood of the item failing while out of the manufacturer's warranty period. This is the hardest factor to evaluate, but it's also where you can save the most money by researching the product before you buy. Whether it's from reviews in magazines such as Smart Computing or through Internet searches, it pays to see if others have had bad luck with the item you're interested in. Obviously this is harder if the item or component has just been released, but that's a penalty you pay if you're an early adopter.

A final factor to consider is peace of mind. As long as the fine print on the warranty doesn't unduly restrict its coverage, an extended warranty can ease any concern about support for a big-ticket purchase.

Our recommendation for extended warranties is to generally decline when offered. We would rather spend the money an extended warranty would require on a quality component or item that had received excellent reviews from reputable sources. It's a false economy to buy a cheap component and then "protect" it with an extended warranty.



Windows

I have received an email with an attachment ending in the extension .PPS. I have downloaded the program but still get a message that says that a file association is necessary. I have gone to the Control Panel and clicked the File Association folder and have had no luck with opening the file attached to the email. Can you give me a little help, please?

.PPS is the file extension given to Microsoft PowerPoint slideshows. If you do not have PowerPoint installed on your computer, or if the version of PowerPoint you have is older than the version that produced the .PPS file, you can still view the file by downloading Microsoft's PowerPoint 2007 Viewer (tinyurl .com/yfyrhj). The PowerPoint 2007 Viewer will run on WinXP or Vista and will view Power-Point shows as early as PowerPoint 97.

To associate the .PPS extension with the Viewer, you must install the Viewer first, and that should create the file association. If for some reason it does not, then open the Windows Explorer file manager (click Start, All Programs, Accessories, and Windows Explorer), locate the .PPS file, and then right-click it once to bring up the context menu. From the context menu, select Open With. If the PowerPoint Viewer is on the first list of options, select it. If it is not, select Choose Program and then wait briefly while Windows builds a longer list of applications. If the PowerPoint Viewer is on the longer list of programs, select it and place a check mark in the box below the list of program names, labeled Always Use The Selected Program To Open This Kind Of File.

If the Viewer is still not on the list of optional programs, click the Browse button. When a file list opens, find PowerPoint Viewer—usually called Pptview.exe or something equally recognizable. It should be installed in the same folder as your other MS Office programs, but you can use Search in the Start menu to find its exact location. Double-click the PowerPoint Viewer file once you've found it, and it will appear on the alternate list of programs. As above, before you click anything else, click the Always Use The Selected Program To Open This Kind Of File checkbox under the list of file names. Now click the program name and click OK.

If, after you've done all these things, Power-Point Viewer still doesn't start when you click the .PPS filename, go about it the old-fashioned way. Start PowerPoint Viewer and browse to the .PPS file when the dialog box opens. If the file still doesn't run, it may be damaged.



Hardware

I have a Toshiba Satellite 1800 notebook computer. I open programs and suddenly it just closes down. I ran Norton Antivirus, and it started to scan, then just shut down. I tried to defragment and the same thing happened. I do these quite often, so I do not believe I have a virus. I have the power cord plugged into an AC outlet, so it shouldn't be a battery problem. Do I need to send it to a computer shop?

Here's a rule of thumb to help diagnose computer problems. If the problem is repeatable (if you can reproduce the problem by launching a certain program or performing a certain task within a program), then the problem is most likely a software conflict, usually between a program and a hardware driver (or some other newly installed application), and the solution is often found in a software update from one or both sources.

If the problem is intermittent but seems more likely to occur after the system has been running for a while, you likely have a hardware issue. It sounds like this may be the case for you.

We haven't had the experience you're having with a Toshiba notebook, but we did have a similar problem with an HP notebook. In our case, a technician surmised that a problem with the battery recharging circuit was the issue and the solution required a new motherboard. (Yes, ka-ching!) You may be luckier; the problem might be a memory module, the fan keeping your CPU or graphics controller cool may have died (some systems will shut down if they overheat to protect sensitive components), or something may just be loose. In any case, we recommend taking it to an authorized Toshiba repair shop in your area (particularly if it is still under warranty). This sounds like a problem that is best handled by professionals.

Answers to users' most common questions about Firewalls

A firewall is very effective, but it must be properly configured in order to gain the full security benefits.

What is a firewall? Why should I have a firewall on my PC?

A firewall is a computer program that monitors and manages all network communication into and out of your PC. When a program such as an email client, Web browser, or online game is installed or updated and tries to communicate through the network, a firewall will note the activity and alert you, giving you the opportunity to block or allow the communication. Consequently, a firewall is a key part of your computer's security. Most PC security software suites, such as NIS (Norton Internet Security), include a firewall feature.

I'm told that a firewall can help identify spyware, key loggers, and other malicious software. How does that work?

A firewall is not intended to be a diagnostic or antihacking tool, but it is a good tracking tool, and you can easily see every program that has ever tried to exchange data with your computer and a summary of any send/receive rights that those programs have been given.

In NIS, for example, open the main control panel, select Personal Firewall, click Configure, and select the Programs tab. A list of programs will appear, along with the program type and access rights. You will likely see programs that you recognize and some that you may not recognize. If you see a program that you don't recognize or that should no longer have communication rights on your PC, you can use the firewall to block or remove that program from the list, effectively blocking its communication and securing your system.

Suppose that you played a game with an online option and even though you stopped playing the game months ago, you still see that the game's online module is in the programs list and has communication rights. Select that program from the list and modify its rights to block it from sending or receiving or remove the program from the list entirely. In other cases, you may see arcane program entries that you simply

can't identify. These can easily be spyware, keyloggers, or other malicious tools. Again, use the firewall controls to block those unknown programs. If it turns out that one of your trusted programs actually needs that access, the firewall will ask for permission again, or you can reallow the communication manually.

A firewall is very effective, but it must be properly configured in order to gain the full security benefits. A firewall does not make any independent decisions about the programs that are communicating or the data that is being exchanged. It also does not make automatic changes to program rights. It only notes the program requesting access to the Internet.

Do I need to install a firewall? Doesn't Windows provide a built-

You typically do not need to purchase a third-party firewall program; Windows XP SP2 (Service Pack 2) has its own default firewall. You can access the built-in WinXP firewall by clicking Start, Control Panel, Security Center, and Windows Firewall. However, most security software will include a firewall, and multiple firewalls running simultaneously can cause communication problems. If you have no other security software or firewalls running on your PC, be sure that the Windows Firewall is turned on. If you are running other firewall software on your system, be sure that the default Windows Firewall is turned off.

Is it alright to delete old program entries listed in my firewall?

You can certainly use a firewall to change a program's communication rights or remove it from the program list entirely. However, we usually recommend blocking suspicious programs rather than deleting them from the list outright. You'll see the program in the list and know it's blocked, and that way you can easily locate the program again and unblock it if you discover that the program is actually needed.

ACTION EDITOR

Are you having trouble finding a product or getting adequate service from a manufacturer? If so, we want to help solve your problem. Send us a description of the product you're seeking or the problem you're having with customer service. In billing disputes, include relevant information (such as account numbers or screen names for online services) and photocopies of checks. Include your phone number in case we need to contact you.

Letters may be edited for length and clarity; volume prohibits individual replies.

Write to: **Action Editor** P.O. Box 85380 Lincoln, NE 68501-5380

Or send email to: actioneditor@smart computing.com

Or fax us at: (402) 479-2104

A Pricey PC Repair Bill & The Wrong Backup Software

Earlier this year, I purchased a new PC from CyberPower (www.cyberpowerpc.com), but when I tried to turn it on, it kept freezing. According to CyberPower's return policy, customers can return faulty PCs within seven days, but by the time I had given up on fixing the problem on my own, more than a week had elapsed. I purchased a three-year warranty with the computer, so I called technical support. A representative informed me that a technician would call me back, but that call never came. I left numerous voice messages and sent several emails, but still no one called back or replied. After another week, I took the computer to a local PC repair shop where a technician told me that the problem was due to a faulty motherboard and several other corrupted components. The total repair bill came to \$745. I needed my computer fixed, so I authorized the charges and had the computer repaired. Do I have any recourse with CyberPower?

> **Gary Norton** Billerica, Mass.

Smart Computing's sister publication CPU frequently covers Cyber-Power's high-end PCs, so we called our familiar contact and explained Gary's situation. A day later, a CyberPower representative sent us a note that Gary's situation was being looked into. We also got an

email from Gary saying that CyberPower had called him and agreed to refund \$550 of his repair bill (\$300 for the CPU, \$140 for the motherboard, and \$49 for the power supply for a total of \$489, plus an extra \$61 to make it an even \$550 and help offset the labor costs Gary incurred). Gary returned the faulty parts to CyberPower and waited for his refund. And waited. And waited. Finally, a month after he had complied with his end of the bargain, his bank statement reflected the \$550 credit to his account. Although CyberPower didn't explain why Gary might have had trouble

contacting the company, its rapid response and fair compensation is commendable.

A couple years ago, I purchased NTI Backup NOW! 3 based on Smart Computing's recommendation. After installing it on my system, however, I had a lot of difficulty getting it to work. The August 2007 issue of Smart Computing mentions NTI Backup NOW! 4, which I have also tried, but without success.

When my problems first started, NTI's (NewTech Infosystems) technical support representative told me that the problem was the result of a missing floppy emulator on my Dell PC. I called Dell, but they checked my system and found no such problem. NTI's technical support staff then suggested I download and install Backup NOW! 4 to create a boot disk, but the application didn't give me the option to do so. I've had to reinstall Windows four times since my initial purchase of Backup NOW! in 2005, but it sim-ply has not worked for me. I just thought you should be aware of these problems before you recommend this software again.

> James Pittman Walls, Miss.

Smart Computing has recommended NTI Backup NOW! on multiple occasions, so we contacted NTI right away. Later that day, a representative from NTI contacted us and, based on the information we sent him, wondered if perhaps James was looking for a feature included in another of NTI's software products. According to our contact, NTI's Drive Backup! includes a boot disk-creation utility, whereas Backup NOW! does not. NTI's technical support team determined which product best suited James' needs (Drive Backup! 4) and walked him through its options and menus to make sure it worked to his satisfaction. NTI also threw in a license for the latest version free of charge. II

More (Printing) For Less

K, I'm cheap. Despite big talk about awe-inspiring home theaters and cutting-edge multimedia, my wife knows that, at the moment of truth, I'll cheap out on a sensible option with a modest price. And few things irritate me like runaway expenses, espe-

cially when it comes to printing. After a while, the never-ending succession of ink cartridges and printer paper can drive even the biggest spendthrift up a wall. Operating a "free" printer gets expensive quickly unless you figure out how to keep the price of printing

Let's start with paper. It's probably not your biggest expense, although they don't call those packages "reams" for nothing. I can pretty much guarantee you a way to cut costs in half. Look at the last thing you printed. Now look on the back. Unless you have a high-end laser

under control.

printer or pilfer company resources by printing at work, you're probably only using one side of the paper. Very few consumer printers make two-sided prints without purchasing and configuring a duplexer, but that doesn't mean you can't use both sides. Just keep the sheets after you finish reading and stick them back in the paper tray so you're ready to print on the blank side later. You'll not only save money, your ecoconscientiousness will earn bonus points for reducing waste and easing the environmental burdens of paper production. Double points go to those who recycle the double-sided sheets afterward.

We're all familiar with the business model of selling (or giving away) hardware at a loss in order to profit on accompanying accessories. It's the same model used by shaving razors, video game consoles, and heroin dealers. With printers, it's all about the ink. So you can bet your printer's default settings support the ink cartridge business as much as they ensure high-quality printouts of directions to soccer practice. Therefore, your print options are powerful tools to control ink usage and dramatically reduce printing costs. You can adjust the printing options each time you print, but I prefer to set low-ink defaults and then switch to higherquality settings only when I need them. Open the Printers

And Faxes option in the Start menu, right-click your printer, and choose Properties. Your options may vary, but poke around or check your documentation to change the default Print Quality and Color options. FastDraft print quality is fine for most day-to-day printing. I also click the Print In Grayscale option in the Color section, preserving my precious color ink for things that matter more than banner ads and text highlights.

The best way to control printing costs, however, is to buy the right printer in the first place. There's a reason some companies give their printers away with every computer while others make nice livings selling theirs. As a rule, the

> less you pay up front for a printer, the more you'll pay to keep it running. Anyone with a home office, students in the house, or a penchant for printing articles should spend a little bit more on a printer. I'm fond of HP models in the \$100 range, which won't break the bank but seem to stretch their ink longer than "free" competitors

do. It doesn't take many unpurchased \$35 cartridges before

> a little investment up front pays for itself.

> > Even after you find a reasonably frugal model, you don't have to play along with the "razors and blades" business model entirely. I buy ink cartridges online,

from third-party vendors, in packs of two or three. I also prefer refilled or refurbished models, despite the dire warnings from printer manufacturers. They may not last quite as long as the branded versions, but they're significantly cheaper, and I like spreading my meager spending around a little.

The money I save in ink cartridges and paper may not get me a new plasma TV or a breathtakingly fast new computer, but we can all find ways to use a few extra bucks. I think I'll do some research on something safe, sensible, and moderately priced, like that multiroom HD movie server I've had an eye on. II

BY GREGORY ANDERSON

Gregory Anderson is a regular contributor to Smart Computing and several other technology publications. He keeps a sharp eye (with the help of thick glasses) on computing trends and enjoys working with geeks of all stripes—most of the time. Share your penny-pinching practices with Greg at gregory-anderson@smartcomputing.com.

Thy Spirits All Of Comfort

Fare thee well; The elements be kind to thee, and make Thy spirits all of comfort! - William Shakespeare, "Antony & Cleopatra"

o one sets out to become an editor. A writer, maybe. An astronaut or a firefighter or a police officer, certainly. But not an editor. One can imagine a child, enamored of his first-grade teacher, deciding to become an educator. Similarly, scientists from Francis Crick to Albert Einstein to Carl Sagan have undoubtedly inspired thousands of young men and women to spend their lives exploring the farthest frontiers of math or biology or physics. Why, through the agency of movies and television programs that sometimes depict attorneys in a positive light, we have even—God forgive us—occasionally encouraged impressionable young people to take up lawyering as a career.

The list of vocations to which one might aspire is long and (mostly) honorable, and it includes many possible career choices, but "editor" is not prominent among them. With the exception of sons and daughters of editors—and even this must be very rare—it is difficult to imagine a young person flipping though a book and thinking, "Wow! Someone had to edit this book. That's what I wanna do-I'm gonna be an editor! (Son: "Hey, Dad? Can I have my very own set of Faber-Castell nonrepro blue editing pencils?" Dad: "Why, Son, surely you mean, 'May I have my very own set of Faber-Castell nonrepro blue editing pencils,' don't you?" Son: "Uh, never mind, Dad.")

And yet, some of us somehow do become editors: It must be that a benign or whimsically malicious Providence smiles (smirks?) down on us and says, "You! Bennett Cerf! You will become an editor." And young Bennett does indeed become an editor and a great one. As were Clifton Fadiman and Ben Bradlee and countless others, most of them doomed to labor in quiet obscurity.

But we don't always stay editors. Or teachers, astronauts, or police officers. Life moves on, and, for better or worse, we are swept along by unanticipated changes. The teacher becomes a sales rep, the astronaut becomes a counselor, the police officer finds himself owning a retail clothing store. And the editor, who quite enjoyed being a writer but who never really intended to become an editor, moves on to something else.

And, yes, now I'm speaking of myself.

This will be my last column as the editor of Smart Computing magazine. I'll be handing over the editor's ceremonial mantle and mace to someone else, as I'll be returning to the wacky world of software development.



Nor a mantle. But the job does come with a very nice Swingline stapler and a jumbo-sized bottle of Tums.)

It's been about four and a half years since I wrote my first column for Smart Computing. In that column, I promised to do my best to entertain and inform you, and I expressed my hope that we would become friends, perhaps almost family. Well, 41 months have now gone by, and I've written one column for each of those months, so you and I have had an approximately 31,000-word conversation. We've talked about so many things: cars, cell phones, blogs, spouses, technology in general, and computers in particular. We've shared many good times and a few very, very bad times, but along the way, there was always that connection, the sense that this was real communication—an actual conversation with people who may or may not have agreed with what I had said, but who were always passionate about the technology being discussed and who always let me know, via telephone calls, letters, and emails, how they felt.

Thank you for that passion; for your input, advice, and suggestions; and for 41 months' worth of technology-related conversations. And if we didn't always agree, well, what family does?

When you think about it, 31,000 words isn't much, really: a long-ish research paper. A typical novella. But perhaps the fewer the words used the more important each word becomes, because those few must then shoulder a proportionally larger share of the communicative burden. I'd like to think that mine were well-chosen words that did a decent job of shouldering that burden, but I suppose that we'll have to wait to discover that.

While we wait, please keep an eye out for my byline, because I do hope that I'll have a chance to write for Smart Computing in the future. And if you see my byline, you'll know two things: First, more people liked my writing than disliked it. And second, I decided I needed a bigger motorcycle, and Lesley said, "Sure, Honey, go ahead; as long as you can find a way to pay for it." II

BY ROD SCHER

My Favorite Topics

Looking for the latest, most up-to-date information from Smart Computing? Check out the latest subscriber feature—My Favorite Topics—on SmartComputing.com! My Favorite Topics allows you to receive the latest articles from your favorite editorial areas from all of our publica-

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The discovery that led to the technology that lets you store thousands of songs and videos on your MP3 player was made nine years ago in 1988. In October, the two men who made the discovery were awarded the Nobel Prize in Physics.



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From Smart Computing's Daily Tip Archive

Earbud Tip

If you face a lengthy daily commute on a crowded bus and listen to music during your commute, check out earbuds that feature noise-iso-

lating or noise-cancelling technology. The former uses rubber tips or silicon sleeves that fit in your ear to

block ambient noise, while the latter actively neutralizes outside noise by detecting the ambient sound and producing sound waves that are equal but opposite. Either option is great for blocking out the noisy commute—or even just the tippity-tapping of a deskmate's keyboard.





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